Service learning in higher education: a systematic literature review

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Abstract

In the last few years, adoption of service learning in higher educational institutions has emerged as a modern teaching and learning strategy. This study is aimed to offer a systematic literature review of service learning implementation in higher education. There is a lack of research on the role of service learning in higher education sector. Moreover, a comprehensive systematic literature review of service learning in higher education is also overlooked in previous studies. Therefore, this study covers an in-depth systematic literature review, which reflects the utilisation approach and outcomes of service learning in higher education. By employing a rigorous exploratory approach, this study offers four major findings: (1) Acceptance and use of service learning in different academic disciplines, which covers a detailed discussion of up to what extent service learning pedagogy practice exists in each discipline. (2) Emerging issues regarding the integration of service learning in different academic disciplines. (3) Comparative analysis of previous service learning frameworks, which includes theoretical foundation, main findings and limitations of each framework. (4) Potential benefits of service learning for all participants. Service learning presents diverse benefits for all stakeholders; we identified the list of potential outcomes in the light of emerging service learning literature. These findings show that service learning is frequently employed in some academic disciplines, i.e. medical and nursing sciences; business and economics; computer science and information system; social studies; teacher education; linguistic and environmental disciplines. Moreover, comparison of previous service learning frameworks revealed that most of them are subject-oriented, specifically focused on institutionalising and practical aspects.

Keywords Service learning · Service learning framework · Higher education · Experiential learning · Literature review

Introduction

Service learning is a type of experiential learning which provides opportunity for learners to enhance their understanding of concepts and theories in practical environment. The strong academic connection and reciprocal nature of service learning, that offers unique benefits for all participants, distinguishes it from other types of experiential learning approaches, such as volunteerism and internship. According to Ferrari and Chapman (2014), apparently service learning seems similar to volunteerism and internship, but actually it is different, because service learning is more focused on enhancing students' understanding of their theoretical knowledge through service experience in community and reflection on that experience. On the other hand, internship mainly emphasises on the acquisition of specific career-oriented skills, and service providers are the main beneficiary of any internship program (Furco 1996). Whereas, volunteerism is more inclined towards service concept, in which recipients are the main beneficiary of a volunteerism project (Furco 1996). Further, it is clearly reflected itself from the name of service learning that it is an amalgamation of both academic learning and community service, which aims to provide practical learning experience with better

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understanding of course contents learned in the classrooms. According to Bringle and Hatcher (1995, p. 112) service learning refers to a

> Course-based, credit-bearing educational experience in which students (a) participate in an organised service activity that meets identified community needs and (b) reflect on the service activity in such a way as to gain further understanding of course content, a broader appreciation of the discipline, and an enhanced sense of civic responsibility" (Bringle and Hatcher 1995, p. 112)

For the ease of readers, we have elaborated the difference between service learning, volunteerism and internship in Fig. 1.

In the last few years, service learning has received a significant attention from both academicians and researchers in every academic discipline (Geller et al. 2016; Rutti et al. 2016; Yorio and Ye 2012). Various scholars (e.g. Bringle and Hatcher 1996; Nejmeh 2012) have noted that service learning can be integrated in higher education curriculum in several ways, such as class projects with specific credit hours, extra-curricular activities or as research projects. However, all types of service learning activities involve the incorporation of academic learning with community service, which enhances the knowledge of course material, with its application in the real-world scenario. According to various recent studies (e.g. Dienhart et al. 2016; Geller et al. 2016; Meyer et al. 2016; Olberding and Hacker 2015; Rutti et al. 2016; Weiler et al. 2013), service learning has been associated with a variety of benefits, i.e. increased student learning and practical experience (Meyer et al. 2016); civic engagement, reciprocal relationship between campus and community (Olberding and Hacker 2015); enhanced institutional satisfaction and civic literacy (Rutti et al. 2016); enhanced social responsibility and civic leadership among students (Weiler et al. 2013); deeper understanding of course contents (Dienhart et al. 2016); improving community life by imparting awareness and problem-solving skills (Geller et al. 2016).

Moreover, it is pertinent to mention that service learning pedagogy is not limited to only traditional learning environment; in this regard, various scholars (e.g. Bourelle 2014;

Waldner et al. 2012) have noted that service learning can be integrated with modern online learning approaches as well. Multiple terms are used for online service learning, e.g. E-service learning, extreme service learning and service E-learning (Bourelle 2014). In a recent study, Bourelle (2014) defined online service learning as an experiential learning approach, for developing virtual relationships between students, educational institutions and community partners. With ever-growing interest and use of service learning in face-to-face and online medium, it is imperative for academicians across different academic disciplines to understand the application of service learning in diverse academic areas, theoretical rationales and limitations of previous service learning implementation frameworks. Moreover, a clear understanding of the benefits of service learning for all participants is also important for taking better decisions regarding the incorporation of this pedagogy in higher education.

Referencing to the current literature on service learning, we identified four types of research articles in this domain, i.e. (1) studies which reported the integration of service learning in a particular academic discipline; (2) conceptual studies which presented service learning frameworks and theories; (3) studies which established the importance and significance of service learning for teaching and learning and (4) studies which described reflection, which is the important component of service learning. There are very few studies which demonstrate the impact of service learning projects on students' overall learning outcomes (Celio et al. 2011; Yorio and Ye 2012). In this modern era, increasing emphasis on social responsibility and civic collaboration has ensued the importance of service learning in higher education curriculum (Farooq et al. 2017, 2018; Salam et al. 2019). However, there is a need of comprehensive literature review study, which can provide a broad understanding about the acceptance and popularity of service learning in different academic disciplines, along with comparison of previous service learning frameworks, inherent theories, their limitations and potential benefits of service learning for all participants in the light of emerging literature.

Although, there are some studies, which have focused on the concept of experiential learning and its impact on students' learning. However, to the best of our knowledge,

Fig. 1 Difference between service learning, volunteerism and internship. Reproduced with permission from (Furco 1996)

Adapted *from* (Furco 1996)

to date, there is no such study, which focuses on the extant literature review in the field of service learning. Particularly, there is dearth of studies on integration of service learning in different academic disciplines, emerging issues, comparison of existing service learning frameworks, their theoretical perspective and exploring the potential benefits of service learning for all participants. Contrary to previous literature review studies, which investigated the potential outcomes of service learning on students' learning (Celio et al. 2011), meta-analysis of personal, social and cognitive development (Yorio and Ye 2012), potential service learning projects and best practices (Rutti et al. 2016), this study, is aimed to provide an overview of emerging studies in the field of service learning, to explore the current research trends, acceptance and use of service learning in difference academic disciplines, emerging issues, current theories, frameworks, their limitations and potential benefits of service learning. In order to bridge this gap in service learning literature, this study is an effort to address four major research questions, i.e. (1) to what extent service learning is adopted in different academic disciplines in higher education? (2) what are the emerging issues for service learning integration in higher education curriculum? (3) what are the limitations of current service learning frameworks? (4) what are the potential outcomes of service learning pedagogy?

Theoretical frameworks for service learning

Experiential learning theory by Dewey (1938) provides theoretical foundation for service learning pedagogy. In early 1900s, Dewey (1938) was one of the scholars, who believed in '*learning by doing*' and investigated the role of academic institutions in overall community development. Later on Kolb (1984) extended the concept of experiential learning by developing an experiential learning cycle. Kolb (1984) experiential learning cycle consists of four phases, i.e. (1) concrete experience, (2) reflective observation, (3) abstract conceptualisation and (4) active experimentation. This model has been widely adopted by service learning scholars (e.g. Petkus 2000; Roakes and Norris-Tirrell 2000; Salam et al. 2019) as a theoretical framework for integrating service learning in their course curriculum. Moreover, social–cognitive theory (Carson and Raguse 2014) and constructivism theory were also used for service learning design and implementation (Galvan and Parker 2011).

Another study by Taylor (2014) explored the potential of cultural–historical activity theory (CHAT), which provides a new insight for community service learning projects. CHAT offers a useful theoretical tool for implementing community service learning in higher education, in terms of activity-based learning systems (Taylor 2014). Further in this regard, Taylor (2014) elaborated four key assumptions of CHAT

and argued that these assumptions are consistent with the goals of community service learning (Taylor 2014). Further in another recent study, Condon and Grimsley (2015) reported the use of Parse (2014) theory of human becoming and Parse (2014) teaching learning model as a fundamental approach for service learning implementation. In this regard, Condon and Grimsley (2015) elaborated four service learning activities in nursing curricula and indicated theoretical support of Parse (2014) teaching and learning model and Parse (2014) theory of human becoming for service learning in nursing curriculum.

This section has reviewed the theories, which are frequently used for service learning pedagogy. A comparative analysis of previous service learning frameworks with their underpinning theories, to identify the key factors of service learning implementation in various academic disciplines, is also presented in later parts of this study. Based on the above discussion, we comprehend that various previous studies (e.g. Carson and Raguse 2014; Condon and Grimsley 2015; Galvan and Parker 2011; Petkus 2000; Roakes and Norris-Tirrell 2000; Salam et al. 2019; Taylor 2014) have employed different theoretical frameworks for integrating service learning pedagogy. However, majority of scholars (e.g. Petkus 2000; Roakes and Norris-Tirrell 2000) argue that Dewey's (1938) experiential learning theory, and Kolb's (1984) experiential learning cycle are most widely acclaimed theoretical frameworks for incorporating service learning component in higher education curriculum. Therefore, in order to complete this picture, a comprehensive and systematic literature review is required.

Methodology

Systematic literature review

As mentioned earlier, this study is an effort to answer four major research questions, i.e. (1) to what extent service learning is adopted in different academic disciplines in higher education? (2) what are the emerging issues for service learning integration in higher education curriculum? (3) what are the limitations of current service learning frameworks? (4) what are the potential outcomes of service learning pedagogy? In order to bridge this gap in literature, a systematic literature review was performed. According to Moher et al. (2009, p. 264) a systematic literature review refers to "*a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research and to collect and analyse data from the studies that are included in the review*" (Moher et al. 2009, p. 264). Considering the guidelines of Moher et al. (2009, p. 264), we have synthesised service learning literature, in a precise and reliable way, for exploring the

service learning literature systematically, and to answer our aforementioned research questions.

Searching strategy

Various searching strategies were employed to find relevant research papers, which fitted best, to achieve the objectives of this study. In order to identify relevant research papers, online databases, e.g. Web of Science, Scopus and ERIC were used for searching relevant material, because these three databases are well established and are most recognised in the field of social sciences. Initial searching process included the terms related to service learning, e.g. '*service learning*'; '*service learning in higher education*'; '*service learning frameworks*'; '*online service learning*' and '*experiential learning*'. For each database, these keywords were ran separately, to ensure broader coverage of service learning studies. As one of our study selection criteria, we preferred peer-reviewed journals only, because these journals are considered more reliable source of scientific information. Further details regarding our study selection criteria are elaborated in the following section.

Selection criteria

In order to achieve the objectives of this study, a systematic and very stringent selection criterion was specified to designate most relevant studies in the field of service learning. During initial searching process from electronic databases, we specified the scope of our literature review with distinct criteria, i.e. time period was confined from 2000 to 2018, language 'English' and study type 'peer-reviewed articles'. The reason for searching a long period (i.e. 2000–2018) data is to develop a comprehensive overview of service learning pedagogy, with respect to its utilisation in higher education system, and an analysis of current theoretical frameworks of service learning and identifying potential benefits of service learning. Capitalising on the aforementioned criterion, we were able to retain most relevant studies, which met one or more of the following criteria.

1. Studies which focus on service learning design and implementation.
2. Studies which highlight the theoretical aspects and service learning frameworks.
3. Studies which elaborated the integration of service learning component in any academic discipline, or particular course, or module, including both traditional and online education medium.
4. Studies which focused on particular outcomes and benefits of service learning for all stakeholders (i.e. teachers, students and community).

Study selection

Study selection is one of the most critical and important steps involved in a systematic literature review (Farooq et al. 2018; Moher et al. 2009; Salam et al. 2017). Considering the guidelines of Moher et al. (2009), we developed a thorough selection process, which encompassed the following three steps: (1) screening of the titles of all retrieved research articles for aforementioned inclusion criteria; (2) abstracts review and screening of initially selected articles for eligibility; (3) whole full-text review for final inclusion decision, by assessing their suitability and alignment with our research objectives. Initially 623 articles were identified from three databases (i.e. Web of Science, Scopus and ERIC). After removing duplicate entries from all three databases, 532 different articles were retained. After title and abstracts' screening, 187 articles were retained for full-text review; out of them, only 133 articles were finally selected, which satisfied all three inclusion criteria. Figure 2 presents an overview of our searching protocol for systematic literature review, which is based on Moher et al.'s (2009) guidelines of preferred reporting items for systematic reviews and meta-analysis (PRISMA).

Studies selected for full-text screening (i.e. 133) were further categorised into three clusters, based on their nature, purpose and outcomes, which are also in line with the objectives of this study. In this context, selected studies were clustered, according to their purpose and nature of their objectives, i.e. (1) studies which explored incorporation of service learning in different academic disciplines (including both face-to-face and online learning medium); (2) conceptual studies which discussed theory or frameworks for service learning implementation and (3) studies which examined the outcomes of service learning pedagogy. Moreover, we applied different data analysis methods for each cluster to answer our previously elaborated research questions. Some articles were excluded during full-text screening process, due to multiple unavoidable reasons, e.g. non-operationalisation of service learning construct, lack of focus on service learning, vague and general discussion, non-compliance with our inclusion criteria and non-availability of online full-text documents.

Analysis method

Content and thematic data analyses methods were applied separately to each cluster. For the first cluster, both content and thematic analyses were performed to synthesise studies, which elaborated the integration of service learning in different academic disciplines along with its emerging issues. In order to answer our third research question, content analysis method was applied on the second cluster of studies, with a purpose to perform a comparative assessment of service
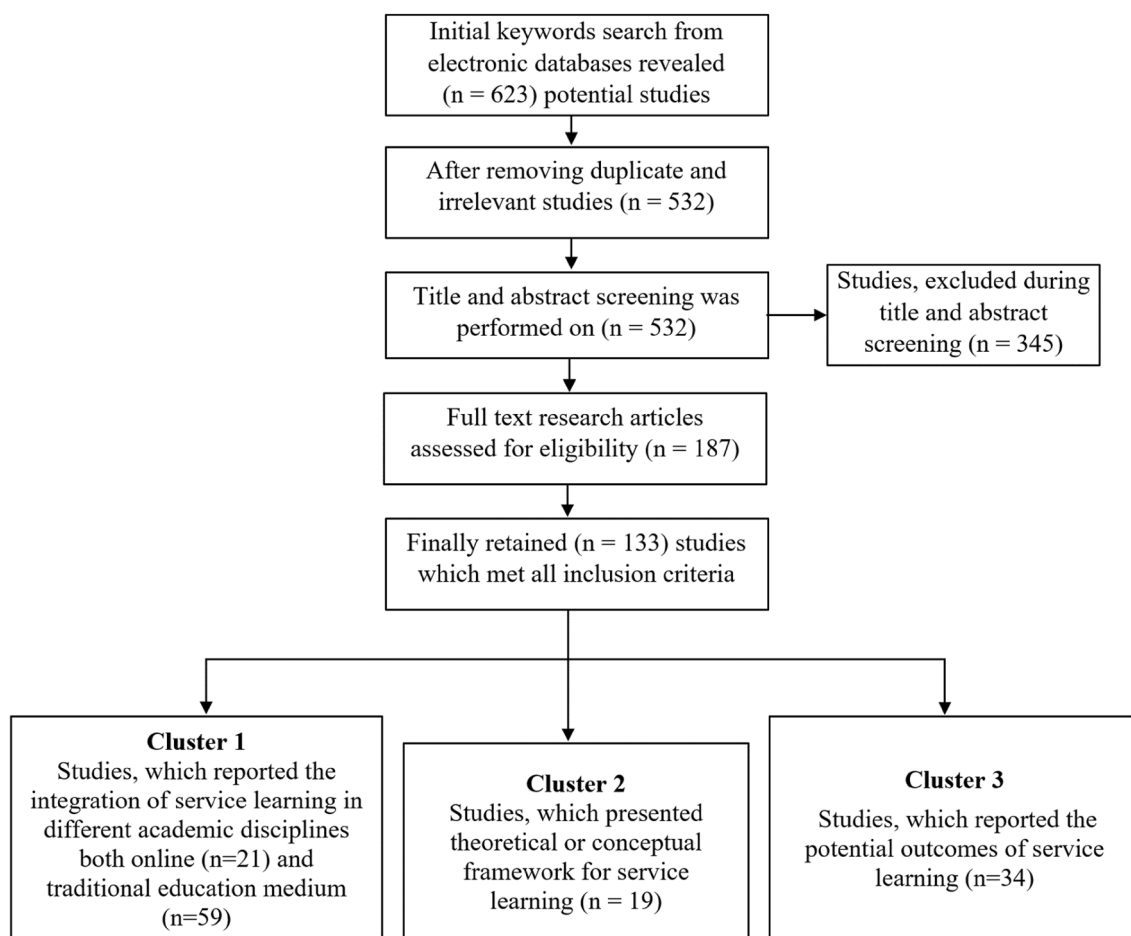
Fig. 2 Study selection flowchart

learning frameworks. Moreover, comparative analysis of previous service learning frameworks was helpful in broadening our understanding about theoretical frameworks and their limitations. Similarly, we analysed third cluster of studies to investigate potential outcomes of service learning for all participants in the light of extant literature. Next section entails the detailed analysis and findings derived from each cluster of studies.

Findings

Service learning integration in different academic disciplines

This section presents a comprehensive review of previous studies, which are intended to elaborate the integration and implementation of service learning in different academic disciplines (including both traditional face-to-face and online education mediums). By doing so, this section covers one of the major objectives of this study, i.e. answering our first research question 'to what extent service learning is adopted in different academic disciplines of higher education'. In order to answer this question, we performed a thorough review of carefully selected studies, which described the experience of service learning integration in any academic discipline. Further, we outlined their key findings and issues, if any, reported by researchers while incorporating service learning component in their curriculum. Analysis of previous studies indicated that health sciences and nursing disciplines have frequently employed service learning in their curriculum ($N = 18$), followed by business and economics ($N = 10$), computer and information sciences ($N = 8$), sociology and criminal justice ($N = 6$), teacher education studies ($N = 5$), geography and environmental studies ($N = 3$), Linguistic and communication ($N = 3$) and arts studies ($N = 2$). Moreover, we found only one study for some academic disciplines, i.e. engineering, mathematics, sports, hospitality and tourism industry. Figure 3 illustrates the comparison of service learning adoption in different academic disciplines.

As depicted in Fig. 3 service learning has been widely adopted in health science and nursing discipline. In a recent

Fig. 3 Comparison of service learning adoption in different academic disciplines

Legend:
- Health Sciences and Nursing
- Business & Economics
- Computer and Information Sciences
- Sociaology and Criminal justice
- Teacher Education
- Geography and environmental Sciences
- Linguistic and Communication Studies
- Arts
- Hospitality and Tourism
- Engineering
- Sports Studies
- Mathematics
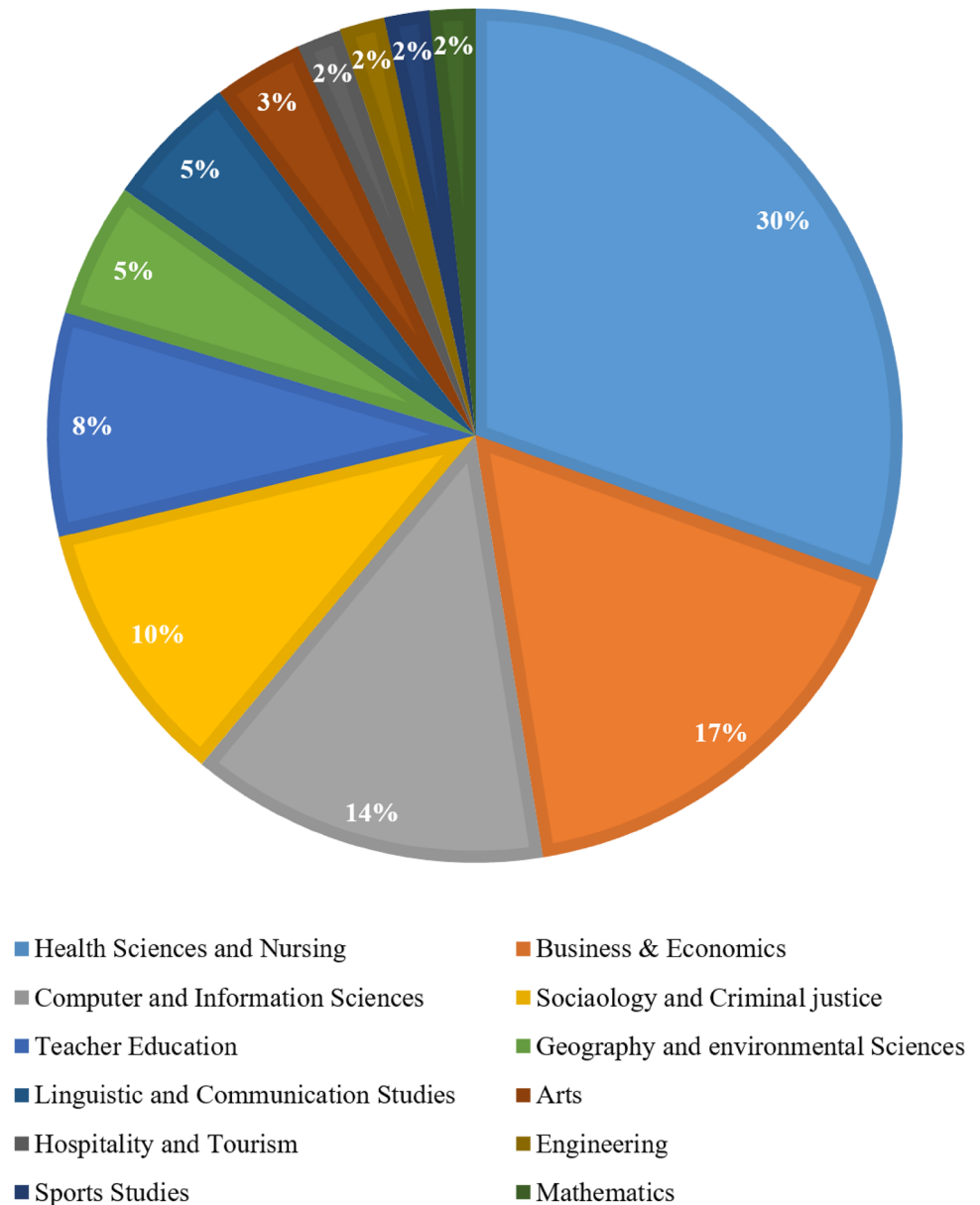
study, Marcus et al. (2011) described the implementation of service learning projects in inter-professional course for training civic-minded health-care professionals. Several studies from health and nursing disciplines have reported the implementation of international service learning programs, for promoting practical learning and diverse skills, e.g. global cultural competencies (Chen et al. 2012; Kohlbry and Daugherty 2015), Knowledge of health-care system at international level (Abedini et al. 2012), communication and critical thinking skills (Foster and Pullen 2016; Jamie Haines et al. 2017). Further, in another study, Johnson and Howell (2017) reported an inter-professional international service learning program, in which students from four different health professions participated. In this regard, Johnson and Howell (2017) asserted that students from different

professional programs can work together in international service learning projects, to learn about each others' professions, teamwork and communication skills, which can largely strengthen their knowledge through inter-professional collaboration.

In addition to this, community-related service learning programs can also be introduced by faculty of health care, to promote healthy eating, physical activity, evasion of obesity (Rosenkranz 2012) and injury prevention (Alexander et al. 2014). A recent study by Hwang et al. (2014) reported a positive effect of intergeneration of service learning projects in terms of reciprocal benefits for both nursing students and local community residents. Likewise, Laks et al. (2016) have also confirmed the significance of service leaning in geriatrics course (elderly patient care) for medical students, where

they get an opportunity to meet older members of the community, to identify their needs and get a better understanding of their course contents in practical scenario.

Furthermore, Jarrell et al. (2014) employed service learning pedagogy for teaching their students about health disparities in society. In their findings Jarrell et al. (2014) acknowledged that the use of service learning in nursing education develops positive attitude towards poor patients, and enhances empathy among students. Furthermore, some other studies described the longitudinal effects of service learning in terms of promotion of sustainable community service (e.g. Jones et al. 2014), development of social responsiveness (e.g. Menamin et al. 2014) and developing inter-professional work behaviour by running free clinics for improving community health (e.g. Buff et al. 2015; Seif et al. 2014). In addition to this, some scholars claimed that service learning programs help academicians to train medical students for living and working in rural communities (Porter et al. 2016), as well as for conducting community health-care needs assessment (Krumwiede et al. 2015), to determine common health issues and for finding their potential solutions. Particularly addressing the implementation of service learning in the field of health sciences, Gasparis et al. (2017) noted that the quickest and effective way to train students is only possible by providing them with real-world experience, by means of engaging them in community service projects. Students' involvement in community service develops a sense of responsibility in them, and it enables them to contribute in social development of communities by helping them to find solutions for their local community's health issues (Gasparis et al. 2017).

The discipline of business and economics is regarded as early adopter of service learning pedagogy (Salam et al. 2017). Out of ten studies from this discipline, we found two conceptual studies, which provided a framework for service learning design and implementation by Petkus (2000), and theoretical perspective by Martin (2015) for marketing courses, respectively. Further, Pless et al. (2011) presented a case study of international service learning program, for business projects. Findings of Pless et al. (2011) confirmed that service learning pedagogy enhances students' overall learning at all three levels, i.e. cognitive, affective and behavioural level. Moreover, Young and Karme (2015) reported that service learning projects (in partnership with indigenous non-profit organisations) offer opportunities for business graduates to improve their organisational learning skills, by understanding community and organisational culture, which equips them with moral reasoning and practical work experience.

Furthermore, Gerlach and Reinagel (2016) have described the implementation of service learning component in master of public administration (MPA) program, to uncover the real-life application of course contents and theories. In this

regard, Gerlach and Reinagel (2016) argued that experiential learning approach is effective for students' learning and agreed that it will help to produce well-prepared MPA graduates with practical learning exposure. Likewise, Schoenherr (2015) provided a detailed guideline for design and implementation of supply chain management course with service learning component. In addition to this, some other scholars (e.g. Stevenson and Peterson 2015; Weldy and Turnipseed 2010) have reported compelling lines of evidence, depicting the significance of service learning for students' academic and civic learning in business education. Moreover, Snell et al. (2015) and Grotrian-Ryan et al. (2016) have stated that instilling service learning pedagogy in business courses provides opportunities for undergraduate students to develop business, civic and leadership skills, and it is also important for promoting civic-mindedness in fresh graduates.

Further literature review revealed eight different studies, which described the use of service learning in computer science and information technology discipline. In this context, an early study by Sanderson and Vollmar (2000) established a primer for integrating service learning in computer science discipline, particularly for software engineering courses. Further, several other scholars (e.g. Furco 1996; Hill et al. 2014; Sanderson 2003; Sanderson and Vollmar 2000; Tee and Kalidas 2016) also entailed detailed suggestions for institutional and departmental support, selection and preparation of community partners for service learning in computer science discipline. Moreover, Schahczenski (2002) and Linos et al. (2003) have also explored the usefulness of service learning pedagogy in some software engineering projects. Moving towards the other courses of computer science discipline, a recent study by Nejmeh (2012) provides a taxonomy of service learning projects for information system courses which includes training, custom development projects, technical support, professional services, product development and system selection. In this regard, various scholars (e.g. Nejmeh 2012; Rosmaita 2007; Tan and Phillips 2005) argued that computer science graduates should not only be good in technical skills of software design and implementation, but they should also be good in other skills (e.g. communication, teamwork, awareness of social values related to computing, problem solving and critical thinking) as well, which can be learnt through service learning projects.

In the discipline of social sciences, we found six studies which described the integration of service learning in different courses, e.g. criminal and social justice (Burke and Bush 2013; Davis et al. 2014; Toporek and Worthington 2014), social work (Postlethwait 2012) and research-based technical writing courses (Soria and Weiner 2013; Stevens 2014). In this regard, Burke and Bush (2013) have described the usefulness of service learning in undergraduate students during their criminal justice course. Further

Burke and Bush (2013) reported that their students found service learning projects beneficial for them; however, there were some obstacles related to time consumption, limited resources and some restrictions from students' families for participating in service learning projects. Similar findings of another study by Davis et al. (2014) from criminal justice discipline support the notion of service learning pedagogy and validate its positive impact on students' learning outcomes.

According to Toporek and Worthington (2014), integration of service learning with difficult dialogues pedagogy enhances students' understanding of real-world social and domestic issues. Further, they argue that service learning-based social justice course provides essential knowledge about social bureaucratic system, which is essential for awareness of social justice support in the society (Toporek and Worthington 2014). In addition to this, various academicians (e.g. Soria and Weiner 2013; Stevens 2014) from linguistic and communication discipline also acknowledged the efficacy of service learning for intensive writing projects, where students have successfully applied their academic writing and research skills to fulfil their community needs. Findings of these studies demonstrated that service learning presents a great value for achieving learning objectives of course contents, while offering mutual benefits to all stakeholders and community partners at the same time.

Moreover, service learning is also popular in teachers' education programs, where participants can upsurge their understanding of being a teacher during community service activities (Galvan and Parker 2011; Gao 2015). Service learning integration in teachers' education programs provides an opportunity for teacher candidates to assess schools and community needs beforehand, which helps them in understanding cultural receptiveness and their growth prospects (Lovat and Clement 2016; Tinkler et al. 2014). A recent study by Larsen and Searle (2017) has demonstrated the significance of international teaching experience in service learning programs for developing culturally aware global citizens.

Based on the above discussion, it is conclusive that service learning is most frequently used in health sciences, followed by business and economics, computer and information sciences and social sciences. However, in some academic disciplines, service learning is still at its infancy stage of adoption in their curriculum. In-depth review of literature has revealed that majority of the scholars have focused on service learning implementation in their distinct discipline only, which has abridged the generalisability of their findings for other disciplines. Moreover, growing number of publications on service learning pedagogy are a proof, that more academicians are interested to incorporate service learning in their curriculums.

Service learning in online learning medium

It is important to note that online learning medium has been growing significantly since last decade. The annual enrolment of online students has been increasing all over the world (Waldner et al. 2012). Moreover, the use of modern learning technologies in education system is also rising exponentially (Salam et al. 2017). Various scholars (e.g. Guthrie and McCracken 2010; Strait and Sauer 2004; Thurston 2005; Waldner et al. 2010) have noted that service learning integration in online learning medium can overcome its several limitations, by freeing it from its traditional geographical constraints. Online service learning is also referred as e-service learning (Waldner et al. 2012). The integration of experiential learning method (i.e. service learning) in online courses provides opportunity for online students to increase their interaction with local communities, even if they perform their service online or on-site (Guthrie and McCracken 2010; Waldner et al. 2012). In this regard, Strait and Sauer (2004) have noted that service learning provides a structured opportunity for online students, to engage with community to enhance their critical thinking, civic responsibility and interpersonal skills. Further, Waldner et al. (2012) have elaborated three emerging types of e-service learning. First, where both service and learning can be performed online, which is contrary to the traditional service learning system; therefore, it is also referred as extreme service learning (Waldner et al. 2010). However, other two types of e-service learning contrast with each other such as, learning online and service on-site, or learning on-site and service online (Waldner et al. 2012).

Furthermore, Guthrie and McCracken (2010) reported that the incorporation of service learning in online social justice courses facilitates students and instructors in enhancing social engagement, social justice and develops their leadership skills. Moreover, various scholars (e.g. Bourelle 2014; Carracelas-Juncal 2013; Soria and Weiner 2013) have acknowledged the significance of service learning in online technical writing courses, for improving students' civic engagement, civic responsibility, peer-to-peer and non-peer learning, through real-life application of their academic skills. Furthermore, Nielsen (2016) claimed that service learning in online technical communication course is crucial for developing a greater sense of academic responsibility in students, specifically for enabling them to find their own service learning opportunities. In another study, Sun and Yang (2015) have reported the implementation of service learning in their online English speaking course, while providing students with a chance to develop their own learning process and strategies, using Web 2.0 tools such as Facebook and YouTube. Findings of Sun and Yang (2015) confirmed the significance of e-service learning, by reporting an improvement in students' speaking skills and confidence level.

Another recent study by Tracey and Kacin (2014) has proposed a design case framework for incorporating e-service learning in online courses. They have entailed a detailed description of processes involved in the development of a virtual collaboration environment between service learning participants, using modern ICT tools, e.g. email, instant messaging, Skype and Google applications. Moreover, Tracey and Kacin (2014) identified a set of good practices for integrating e-service learning in online courses, with the support of ICT for creating a virtual environment. This section has elaborated the acceptance and use of service learning pedagogy in different academic disciplines. Now, the next section continues with the discussion of emerging issues regarding service learning implementation.

Emerging issues regarding service learning implementation

This section is aimed to explore the emerging issues, which are reported by scholars while implementing service learning in their curriculum. Therefore, this section covers one of the main objectives of this study, i.e. addressing our second research question 'what are the emerging issues for service learning integration in higher education curriculum'. Therefore, this section presents a broader picture of emerging issues and challenges, which were faced and explicitly reported, by researchers and academicians, during service learning integration in their curriculum. As mentioned earlier, service learning pedagogy combines community service with overall course objectives, along with deliberate reflection, where all three participants (i.e. students, instructors and community members) are engaged in a healthy and reciprocal learning environment (Salam et al. 2017). According to Toporek and Worthington (2014) because of third party involvement in service learning projects, it is quite challenging to facilitate proper interaction between all three participants (i.e. students, instructors and community members), without a smooth communication channel. From financial perspective, lack of financial support, scholarship and other constraints make it difficult for academic institutes to sustain service learning projects for a longer period of time (Salam et al. 2019). Moreover, family obligations prevent many students to participate in outdoor learning activities, which are an integral part of most of the service learning projects (Salam et al. 2017). Further in this regard, Burke and Bush (2013) reported poor time management, scheduling issues in field trips, overlapping of activities and conflicts among team members, as potential issues during service learning implementation. From course instructors' perspective, Peters (2011) stated that a lot of preparation is required to teach service learning course, because it requires a lot of efforts for maintaining students' engagement throughout their service learning project. Furthermore,

according to Peters (2011) and Schoenherr (2015) assessment of service learning projects for developing a clear connection between learning objectives and actual outcomes of course contents is a challenging task. In addition to this, developing a clear communication medium is also quite challenging task, as students face communication problem with multiple community partners (Salam et al. 2019).

Aforementioned discussion on emerging issues has revealed that instructors are interested to incorporate service learning in their curriculum, even though it might pose some practical and logistical problems (Nielsen 2016). Practically, service learning requires a healthy interaction between service providers and recipients (Guthrie and McCracken 2010). In this regard, Guthrie and McCracken (2010) asserted that internet can be used as a tool for integrating service learning in distance education programs, for delivering instructions to students and for maintaining healthy communication with community members. A recent study by Sun and Yang (2015) described the use of Web 2.0 tools (e.g. YouTube and Facebook) for targeting a large number of audience, and explored various modern means of communication between service providers and recipients. Moreover, various scholars (e.g. Soria and Weiner 2013; Sun and Yang 2015) have reported some technological constraints in online service learning as well; however, more studies are required to assess the significance of existing learning technologies for online service learning projects.

Comparative analysis of current service learning frameworks

As outlined in Fig. 2, we categorised second cluster of studies which contained theoretical and conceptual frameworks for service learning implementation. In this regard, Bringle and Hatcher (1996) were among few early scholars to investigate service learning frameworks, and they proposed a 'comprehensive action plan for service learning' (CAPSL) for institutionalisation of service learning. There action plan encompasses various steps for incorporation of service learning in higher education, i.e. planning, awareness, resources, prototype, progress monitoring, expansion, recognition, evaluation and research. This model is frequently used as an assessment tool for assessing the status of service learning institutionalisation in academic institutes (Salam et al. 2017). However, Zhang et al. (2011) noted that CAPSL presents a complex structure, and criticised it for overlooking some important phases, which are required to integrate service learning in different courses.

Various recent studies (e.g. Petkus 2000; Roakes and Norris-Tirrell 2000) have employed Kolb (1984) experiential learning cycle to design and implement service learning course in business discipline. According to Kolb (1984) experiential learning cycle, service learning

encompasses four important elements, i.e. (1) practical on-site experience, (2) reflection on service learning experience, (3) abstract conceptualisation and (4) active experimentation. In this regard, various scholars (e.g. Ali et al. 2012; Cecil 2012; Hart 2015; Musa et al. 2017; Petkus 2000; Roakes and Norris-Tirrell 2000) have claimed that Kolb (1984) experiential learning cycle provides strong theoretical foundation for service learning pedagogy, because service learning is also a type of experiential learning methods.

There are three major service learning frameworks associated with medical and health sciences discipline, which cover different practical, academic and institutionalisation aspects of service learning in the domain of health sciences (Julie 2014; Voss et al. 2015; Yoder 2006). For instance, Yoder (2006) proposed a service learning framework for dental education, which describes several elements required for service learning course design and implementation. Moreover, Julie (2014) elaborated a list of strategies and policies for the implementation of service learning in nursing curriculum, which encompasses course design according to service learning pedagogy, preparation of participants, monitoring and evaluation of desired outcomes. Likewise, a recent framework proposed by Voss et al. (2015) particularly focused on the successful measurement of mutual benefits of service learning for students and community members in nursing-related service learning projects.

Furthermore, Nejmeh (2012) proposed a three-dimensional framework for the design and implementation of service learning projects in computer science and information technology discipline. These three dimensions consist of practical and academic aspects of service learning pedagogy, i.e. (1) potential project types (e.g. training, customised software development, professional services, desk help and project development), (2) list of activities performed in a service learning project (e.g. identifying project, conducting need assessment, design, implementation, testing, transition and assessment) and (3) mode of project (e.g. curricular, co-curricular and hybrid). In addition to this, Ali et al. (2012) proposed a research-based service learning model, which integrates community service component with course curriculum and infrastructure to achieve academic goals of academic institutions. In their proposed model, Ali et al. (2012) described four major factors (i.e. infrastructure, schedule, requirements and program outcomes), which should be well thought out and well planned for successful implementation of service learning programs. In another recent study, Musa et al. (2017) have demonstrated an implementation methodology, for service learning programs, which consists of three phases, i.e. planning service learning projects, service delivery, evaluation and reflection by considering engagement of various stakeholders on the base of the diverse requirements of the community. In the assessment of their proposed

methodology, Musa et al. (2017) claimed that their service learning program had positive outcomes for all stakeholders.

In order to integrate service learning in curriculum, it is important to consider its' theoretical, technical and institutionalisation aspects, according to the requirements of specific course, desired objectives and overall learning environment (Salam et al. 2017). Further, in-depth analysis of existing studies revealed that most of the service learning frameworks are subject-oriented, which cover practical and technical aspects of any specific subject (e.g. Ali et al. 2012; Bourelle 2014; Cecil 2012; Musa et al. 2017; Nejmeh 2012; Petkus 2000; Yoder 2006), and some of them discussed community development (e.g. Bartleet et al. 2014; Voss et al. 2015), and stakeholders' perspective (e.g. Hart 2015; Julie 2014; Whitley and Walsh 2014). For the ease of readers, Table 1 presents an overview of the comparison of all these frameworks with details of their key findings.

Comparison of current service learning frameworks presented in Table 1 confirmed that most of these frameworks are subject-oriented, and they focused on practical and institutionalisation aspects of service learning, which are specifically required for particular course or discipline. Further, it is also revealed that some of these frameworks were developed on the base of a strong theoretical background, for instance, Dewey's (1938) experiential learning theory, and Kolb's (1984) experiential learning cycle, were most frequently employed. In this context, Petkus' (2000) theoretical framework of service learning is a suitable example to understand how Kolb's (1984) experiential learning cycle provides a strong theoretical support for every step or activity involved in any service learning program. Moreover, during in-depth analysis of service learning frameworks, some common phases were identified, which were identical in all frameworks, i.e. planning, preparation, management, infrastructure design, implementation, reflection and evaluation. Therefore, we argue that these common phases are obligatory for successful implementation of service learning in any academic discipline.

Based on the aforementioned comparison of current service learning frameworks, we have identified some limitations in existing service learning frameworks, such as most of them are focused on practical aspects only, with reference to a certain course. Moreover, they have emphasised on the institutionalisation aspect of service learning, instead of reciprocal learning and academic outcomes. In addition to this, there is a lack of research regarding the effective use of information and communication technology (ICT) and other factors, which can affect the integration of ICT in service learning pedagogy. Therefore, we argue that current service learning frameworks have missed the technological perspective (technology integration) in different phases of service learning; consequently, impact of technology integration on students' experiential learning is also unknown.

Table 1 Comparison of current service learning frameworks

Study	Discipline and theoretical foundation	Key findings
Bringle and Hatcher (1996)	Authors' self-proposed framework based on practical example and general guidelines for service learning project	Comprehensive action plan for service learning (CAPSL) presents a sequence of activities, essential to design and implement service learning program, which includes three years research contribution of 44 institutions in this field. Authors described CAPSL model with the perspective of four stakeholders (i.e. institute, faculty, students and community members) and it provides guidelines for planning, development and assessment of service learning programs
Petkus (2000)	Marketing course from business and economics discipline and based on Kolb (1984) experiential learning cycle	This study provides a theoretical framework, which shows a strong link of service learning with experiential learning cycle, and it can be used to design and implement service learning course. In this study, authors discussed service learning with particular reference of marketing courses only
Roakes and Norris-Tirrell (2000)	Planning course and based on Kolb (1984) experiential learning cycle	Framework emphasised on four key elements, importance of experience for human learning, experience exposure ways of understanding, transformation of experience through reflective thinking and civic engagement
Yoder (2006)	Dental education and authors' self-proposed framework	This framework considers some essential components (e.g. partnership, scholarship, growth and reciprocal learning) required for dental education, to link community service with course objectives. Author claimed that proposed framework enhances the understanding of the concept of service learning in dental education
Zhang et al. (2011)	Teacher education course, which is based on Stufflebeam (1983) CIPP evaluation model	Authors utilised the Context, Input, Product, Process (CIPP) evaluation model as underpinning theory, to design and implement service learning projects, and defined the role of each component of this model in service learning projects
Carrington and Saggers (2008)	Teacher education course, theoretically linked with social–cultural theory of difference	Authors developed a set of principles, along with a comprehensive ethical framework for service learning. Findings of this study demonstrate the significance of mutual relationships between academic institutes and communities to strengthen service with academic learning and strengthen learning with service
Cecil (2012)	Hospitality and tourism course, based on Kolb (1984) experiential learning cycle	Author delineates service learning's importance for hospitality and tourism courses and proposed a framework to cover practical and institutionalisation aspects, e.g. connection of service learning with institutional goals, partnership between community and students, reciprocal learning and course redesign
Ali et al. (2012)	Research service learning program implemented in curriculum of computer science, based on Kolb (1984) experiential learning cycle	The purpose of this research service learning program was to integrate service learning in existing institutional setting, to achieve academic goals. The data were collected during this program, through survey-based questionnaires, and interviews from management, experts and lecturers were analysed to develop a model of research service learning which includes institutionalisation, academic and practical aspects

Table 1 (continued)

Study	Discipline and theoretical foundation	Key findings
Nejmeh (2012)	Computer science and information technology courses, theoretically linked with software development model	Author proposed a three-dimensional framework for service learning integration in computer science and information technology discipline. Mainly focused on the practical nature and types of projects commonly used in this discipline. Therefore, this framework particularly emphasised on activities involved in the technology-based service learning projects
Bartleet et al. (2014)	Art studies, theoretical link is unclear; however, this study focused on practical aspects of service learning	This study presents a framework to promote indigenous service learning projects, for integrating indigenous culture's perspective in higher education curriculum
Bourelle (2014)	Online technical communication course, focused on practical aspects	Purpose of this study was to extend the use of service learning pedagogy in online learning environment. Findings of this study delineate the implementation of service learning projects in online technical communication courses. Further, this study argues that service learning could help students to practically apply their course contents and theories learnt in the classroom at real working environment
Julie (2014)	Dental education, Intervention theory used as a base framework	Service learning implementation framework, which includes all institutionalisation aspects such as developing awareness, monitoring and evaluation system, scholarship, develop service learning pedagogical model particularly for nursing programs
Whitley and Walsh (2014)	Physical education, and deals only with practical aspects	This framework provides concrete guidelines for design, implementation and evaluation of service learning in physical education courses. This framework mainly focused on optimum benefits of service learning for students, e.g. personal outcomes, social and intellectual outcomes
Voss et al. (2015)	Nursing education, focused on practical aspects	This study presents a service learning benefits measurement framework, which is useful for assessing the outcomes and impact of service learning projects on community members
Hart (2015)	Nursing education, based on Kolb (1984) experiential learning cycle	This study proposed a service learning framework, named as ABC of service learning which is critical to assess community and academic needs, to match the goals of both parties, flexibility in curriculum, to redesign courses to integrate service learning, collaboration and reciprocal learning to achieve shared objectives for both parties (academic institutes and community)
Musa et al. (2017)	Computer science and information technology, focused on practical aspects and underpinned by Kolb (1984) experiential learning cycle	This study proposed a comprehensive methodology for service learning implementation, this study also covers institutionalisation aspects (e.g. institute and community engagement, resource evaluation, participants' preparation) and practical aspects (e.g. course and service design, implementation, reflection, evaluation and monitoring) of service learning programs
Salam et al. (2019)	A holistic and generalised framework for implementing service learning	This study focused on modern technology integration aspects in service learning pedagogy, and proposed a holistic framework for implementing service learning. Proposed framework integrates technology with all phases and sub-phases involved in service learning projects

Potential outcomes of service learning pedagogy

Service learning is recognised as an innovative pedagogy, which involves various activities that are beneficial for all stakeholders, such as community members who are involved as service recipient; faculty members who act as facilitators, organisers and coordinators between academic institutes and community members and students who are involved in service learning experience, as a service provider and learner. Generally, service learning provides an opportunity to learn from real-world application of theories and concepts, by rendering some services to meet community members' needs. This section is aimed to elaborate the benefits of service learning for all participants, who are directly involved in any service learning project (i.e. students, faculty members and community members).

Service learning benefits for students

In any service learning project, students are an active participant, and with their active involvement they gain vital skills, such as communication skills, ability to work independently, teamwork, critical thinking, problem-solving skills, social awareness and sense of civic responsibility (Barth et al. 2014; Bowie and Cassim 2016; Fullerton et al. 2015). In this regard, Hart (2015) notes that service learning offers an effective teaching and learning style, which extends the traditional classroom learning, to apply theoretical concepts in real-world environment, while helping community members by working on a specific community problem. Furthermore, Hart (2015) argues that experiential learning environment is very effective to capture students' attention; moreover, it enhances their understanding of real-world problems. Thereby service learning offers a wonderful blend of academic learning for students and contribution in community development at the same time (Hart 2015). Further in this regard, Butler and Christofili (2014) have also acknowledged that when students confront with real-life problems, they can apply their theoretical knowledge and analytical thinking to solve them in a better way. More importantly, service learning experience enables them to comprehend better application and understanding of theories and course concepts which they have learned in the classroom (Butler and Christofili 2014).

Various recent studies (e.g. Celio et al. 2011; Eyler 2000; Rutti et al. 2016; Yorio and Ye 2012) have documented the academic benefits of service learning for students. In addition to this, McLeod (2013) described that service learning is not only effective for students' academic learning, but it also contributes to their overall personality grooming, character building, growth and development. Further in this regard, McLeod (2013) claimed that traditional classrooms does not provide real-life practical learning environment,

and therefore traditional education system is unable to provide practical skills, which are required to be effective in actual working environment. In this context, it is conclusive that integrated service learning programs develop a better and practical learning environment for students and community members, to understand the nexus between classroom learning theories and real-life problems (Fair and Delaplane 2015; Penick et al. 2014). In another study, Kohlbry and Daugherty (2015) have noted that international service learning programs fostered students' personal and social learning, through exposing them to diverse global culture, and providing them with opportunities to interact and work with different international communities in assorted learning environments.

Another study by Marshall et al. (2015) noted that service learning experience enabled students to develop an ability to practically transform their existing knowledge, improve personal view of practical world and challenge personal values. Further in this regard, Marshall et al. (2015) argued that service learning has been effective in developing a sense of civic responsibility and social awareness about cultural and domestic values in fresh graduates. Therefore, various scholars (e.g. Alexander et al. 2014; Craig et al. 2016; Meyer et al. 2016; Phillips et al. 2013; Weiler et al. 2013) regard service learning pedagogy as a superior approach, as compared to any other traditional voluntarism approach, because service learning bridges the gap between academic institutes and communities to prepare students for future workplace, and it helps them to achieve social development objectives as well. In addition to this, service learning also promotes critical thinking and analytical skills (Asghar and Rowe 2017; Sedlak et al. 2003), ability of creating new innovative solutions (Salam et al. 2017, 2019) and ability to work in a collaborative environment (Toncar et al. 2006). Thus, it is conclusive that service learning inculcates many diverse and invaluable practical skills in students, which can be beneficial for them at future workplace, throughout their career.

Service learning benefits for faculty members

Growing popularity of service learning pedagogy, demand of social responsibility and increasing community collaboration have fostered modern higher educational institutes to adopt service learning as a means to achieve their academic outcomes (Darby and Newman 2014; Maddrell 2014; McLeod 2013). Higher educational institutes' are aimed to provide a platform for strengthening relationship between other stakeholders (i.e. students, faculty members and community members) involved in a service learning project (Salam et al. 2017). However, at the same time, it is also the responsibility of faculty members, to find suitable ways to design service learning courses, for achieving academic and institutional goals, while satisfying needs

of local community members (Voss et al. 2015). During any service learning project, faculty members play a vital role in developing healthy relationship between community members and students (Salam et al. 2017). In most of the cases, faculty members act as an initiator, who design service learning courses and projects, perform the role of a collaborator, and a facilitator, for smooth flow of activities on service delivery sites (Salam et al. 2019). At the same time, faculty members act as supervisors to guide and monitor students during their service learning projects (Voss et al. 2015).

Service learning offers multiple benefits for faculty members as well. For instance, service learning provides an opportunity to perform action research, where scholars can test and validate existing theories in a practical real-world scenario (Darby and Newman 2014; Farooq 2018). This type of action-based research inclines to improve the applicability of course contents, and theories which enhance overall understanding of new learning and teaching methods, which leads to improvement in classroom teaching practices (Able et al. 2014; Phillips et al. 2013). In this regard, Stewart (2012) noted that service learning projects, for pre-service teachers help in developing a sense of self-efficacy, spreading awareness about community needs and designing effective learning activities to achieve overall course objectives. Moreover, service learning has been found effective in enhancing course instructors' teaching ability, and instructional productivity, while actively participating in field work with students (Kinloch et al. 2015).

Furthermore, faculty members are stimulated by service learning projects, to transform their teaching styles, and improve their ability to critically think, about existing theories and their applicability through logical connections with real-life problems (Carrington et al. 2015). Likewise, Lasen et al. (2015) argued that service learning experience enables course instructors to facilitate students by providing relevant practical examples from real-life scenario, to find solutions and to understand new concepts and theories. Further in this regard, Lasen et al. (2015) noted that teaching of course contents, with relevant real-life examples can help teachers to make clear and logical connections between theories and real workplace situations. Furthermore, Kohlbry and Daugherty (2013) have stated that major learning goals can be only achieved by adopting creative and effective modern teaching methods. According to Kohlbry and Daugherty (2013), one of the major learning goals of todays' higher education institutes is providing students with real-world learning environment, which is only possible through successful integration of service learning projects. Thus, it is certain that service learning projects are in self-interest of higher education institutes and faculty members as well; however, choice of implementing service learning projects, and their nature (e.g. co-curricular, extra-curricular or hybrid combination of both), is strongly influenced by the availability or resources (Rutti et al. 2016).

Service learning benefits for community members

Service learning projects are always designed to offer service for the common good of all stakeholders (Salam et al. 2017). Community members, as a recipient, are regarded as the most important stakeholder in any service learning project (Bowie and Cassim 2016). Faculty members and students have to put significant efforts in conducting a need analysis, to find out local community's needs and potential opportunities, for proposing service learning projects, which are in the best interest of community members (Coleman and Danks 2015; Geller et al. 2016). Public institutes are more likely to collaborate with local communities and agencies for service learning projects, as they assume pronounced responsibility to participate in the mission of community development by strengthening and empowering their surrounding communities (Krumwiede et al. 2015).

Being on the receiving end, community members reap a number of invaluable benefits from service learning projects (Salam et al. 2017). In a recent study, Simola (2009) reported that the community members benefited from a small business training program, where students provided them with free consultation, training and unique business ideas without any cost. In another service learning program, regarding mentoring of at-risk students, Marshall et al. (2015) and Weiler et al. (2013) have noted the psychological support to at-risk students, through guidance in educational matters and free career consultancy, has helped them to continue their education in high schools. In another study, Jarrell et al. (2014) reported how community members benefited from service learning project of medical and nursing students, who offered them free nutrition consultancy, medical check-up and medicines. Further in this regard, Jarrell et al. (2014) noted that during free clinical service learning program, students also learned diverse skills, sense of civic responsibility and knowledge about current health issues in the community, which equipped them with a broader awareness about community problems. Likewise, in another study Coleman and Danks (2015) reported the significance of a service learning project, in which faculty members, students and community members collaborated to spread awareness, and accumulate financial capitals for preserving natural resources for community welfare.

Moreover, in order to contribute for the betterment of society and community development, higher education institutes can collaborate with other organisations (e.g. NGOs, welfare trusts, rehabilicare and re-establishment organisations) as well. This organisational collaboration will enable them to provide cognitive and psychological support for homeless people, women empowerment

bodies, old age homes, disasters recovery and refugees-related tasks (Geller et al. 2016; Rutti et al. 2016). Thus, higher education institutes and other welfare-based organisations can join hands for devoting their resources and infrastructure for sustainable improvement in overall community development (Rutti et al. 2016). Hence, as a service provider, higher education institutions can meet modern day growing expectation of community development, by integrating service learning projects for resolving local community problems. Although community members also have to dedicate their time and some resources for service learning projects, however, it is evident from our previous discussion that service learning projects yield unparalleled rewards for whole community, and therefore such projects are in the self-interest of community members. For the ease of readers, Table 2 presents a comprehensive list of potential benefits of service learning.

Table 2 Potential benefits of service learning

Potential outcomes of service learning	Description	References
Enhanced sense of civic engagement	Scholars reported that service learning enhanced student's civic engagement by connecting students and local community	Celio et al. (2011), Garcia and Longo (2013)
Developing a sense of civic responsibility	Service learning projects develop a sense of civic responsibility among students as well as in community members	Fullerton et al. (2015), Pelco et al. (2014)
Increased social work in the community	Service learning enhances social work in the community	Cronley et al. (2014), Olberding and Hacker (2015)
Personal growth & cognitive development	Service learning is helpful for personal growth and cognitive development of all participants	Rutti et al. (2016), Sanders et al. (2015), Yorio and Ye (2012)
Increased social and interpersonal skills	Various studies claimed that service learning increases social and interpersonal skills in students	Celio et al. (2011), Postlethwait (2012), Yorio and Ye (2012)
Communication competence	Scholars reported that service learning provides various opportunities to develop communication competencies in students	Chen et al. (2012), Sass and Coll (2015)
Social capital development	Service learning promotes social capital development in communities	Coleman and Danks (2015), Henness et al. (2013)
Community self-efficacy	Service learning improves community's self-efficacy	Gerholz et al. (2017), Sanders et al. (2015)
Cultural competence	Service learning enhances student's cultural competencies	Johnson and Howell (2017), Kohlbry and Daugherty (2015)
Enhanced moral reasoning	Enhances students' ability to differentiate between right and wrong	Lies et al. (2012)
Globally responsible leaders	Service learning helps to develop globally responsible leaders, particularly in international service learning projects	Pless et al. (2011), Taylor and Raykov (2014), Winston (2015)
Awareness regarding social justice	Service learning increases awareness regarding social justice in local community	Asghar and Rowe (2017), Burke and Bush (2013), Davis et al. (2014), Toporek and Worthington (2014)
Developing leadership and mentoring skills	Service learning projects develop leadership skills among school, college and university level students	Marshall et al. (2015), Reed and Butler (2015), Weiler et al. (2013)
Collaboration between students, higher education institutions and non-profit organisations	Various scholars noted that service learning projects help in promoting collaboration between students, higher education institutions and non-profit organisations	Geller et al. (2016)
Reducing generation gap, by developing a healthy relationship between youth and elders	Intergenerational service learning programs help in promoting a healthy relationship between youth and elders	Fair and Delaplane (2015), Laks et al. (2016), Penick et al. (2014)
Academic learning and skills development	Empirical study validates a positive impact of service learning pedagogy on students' academic learning and practical skills development	Salam et al. (2017)

Discussion

Worldwide growth in service learning integration is attributed to the growing interest of scholars and academicians in this pedagogy. In this modern era, higher education institutes are aimed to equip their graduates with preeminent knowledge and practical skills, for which service learning plays a significant role. This study has extensively explored the extant literature on service learning pedagogy, which was systematically analysed to answer previously delineated research questions. As mentioned earlier, total 133 studies were selected for full-text review, which were further grouped in three different clusters (see Fig. 2). Hence, this study has achieved its main objective, which was to systematically review emerging literature on service learning pedagogy. By doing so, this study has imparted a significant contribution in the overall body of knowledge. Here are some of the noteworthy key findings derived from our extensive literature review:

1. Service learning literature has seen a rising trend of publications, which can be categorised into three main distinct areas, i.e. (1) studies on the experience of service learning implementation in any specific discipline, (2) conceptual and theoretical studies and (3) studies which explored and validated the significance and positive outcomes of this pedagogy.

2. This study has presented a systematic review of service learning literature. For this purpose, total 133 studies were analysed, out of them 80 studies were grouped in first cluster, which were regarding the acceptance and use of service learning pedagogy in different academic disciplines. Based on the findings of these studies, it is evident that service learning has been widely reported in medical and nursing disciplines, followed by business and economics; computer science and information technology; sociology and criminal justice; teacher education; geography; environmental studies and linguistic and communication disciplines. However, in some academic disciplines, service learning incorporation is still at its infancy stage, e.g. arts, mathematics, natural sciences, sports, engineering, hospitality and tourism. Moreover, findings of this cluster have revealed that service learning integration is equally popular in traditional classroom (i.e. face-to-face learning) and online learning mediums. Therefore, service learning is often regarded as a frequently reported approach in experiential learning methods.

3. Further, this study has reviewed extant literature for exploring the emerging issues and challenges faced by previous researchers, while implementing service learning projects. In this regard, several major issues were identified, i.e. time management, lack of financial resources, facilitating proper interaction between participants, assessment of service learning and developing connection between course learning objectives and community service. Moreover, some scholars reported that monitoring students' progress and tracking their experiential field work is quite a challenging task.

4. Our extensive literature review revealed a number of studies, which have proposed a framework for service learning integration; however, most of them were subject-oriented and only focused on technical and institutionalisation aspects of service learning in a specific discipline. Comparative analysis of these frameworks revealed some common phases, which were involved in every service learning framework, i.e. planning, preparation, implementation, reflection, evaluation and management. Moreover, from theoretical perspective, most of the frameworks were developed on the base of Kolb's (1984) experiential learning cycle, which indicates that service learning pedagogy has its theoretical roots in Dewey's (1938) experiential learning theory. As mentioned earlier, majority of these frameworks were designed to cover the practical aspects of a specific discipline, therefore generalisability of these frameworks is questionable. Further, it was found that technology integration and role of ICT in the success of service learning pedagogy is still grossly unknown.

5. In-depth analysis of studies involved in the third cluster revealed that service learning offers several significant and positive upshots for all stakeholders (i.e. students, faculty members and community members). Higher education institutes are motivated to incorporate service learning pedagogy for achieving their institutional goals by contributing their resources for the betterment of local community. Further, service learning pedagogy is found to be very beneficial for course instructors as well, because it offers a unique opportunity for conducting action research, which can be useful for validating proposed theoretical frameworks in a real-life scenario. Likewise, as an active member of service learning project, students can groom their understanding of practical field and civic engagement. Similarly, as a recipient of service in a service learning project, community members reap a number of benefits, in terms of technical, emotional and cognitive support, for resolving their real-life problems.

Limitations and future research directions

Like all other studies, this study also has some limitations. Comparative analysis of service learning frameworks revealed that there is no generalised framework for service

learning implementation. Significance of all existing service learning frameworks is undermined due to their restricted nature and limited scope, which confines their usability to a specific discipline only. However, due to limited scope of this study it was not possible for us to develop a generalised framework. Therefore, future studies are required to develop a holistic generalised framework for service learning implementation.

Further, it is found that the role of technology and ICT integration is overlooked in previous studies. Therefore, further studies are required to investigate the significance of ICT in service learning pedagogy. Moreover, a theoretical framework for technology integration in service learning pedagogy is required to understand the applicability and significance of ICT in different phases of service learning pedagogy. Further, due to its limited scope, this study has not proposed any guidelines for service learning implementations. Therefore, more studies are required to explore the best practices and guidelines for implementing service learning at its infancy stage.

In order to achieve the objectives of this study, we have used the findings of previous studies as a source of secondary data. However, future studies can collect survey-based primary data from key stakeholders involved in a service learning project. Furthermore, as mentioned earlier, scope of this study was limited to the review of extant literature; therefore, an empirical and cross-cultural assessment was not possible in this study. However, future studies can perform an empirical assessment on the significance and cross-cultural acceptance of service learning. Finally, longitudinal studies are also required to assess the potential long-term impacts of service learning pedagogy.

Conclusion

Apart from aforementioned limitations, findings of this study have made a significant contribution in the overall body of knowledge, by pulling together the broad and disparate strands of literature in the field of service learning pedagogy. This study provides a comprehensive review of emerging service learning literature, to develop a thorough understanding of its significance and utility in higher education. Findings have revealed that service learning offers reciprocal benefits for all stakeholders, by imparting significant contributions in the overall betterment of local community. Further, findings of this study have revealed that service learning has been widely adopted in several academic disciplines, and various scholars have acknowledged its effectiveness as well. Moreover, comparison of current service learning frameworks revealed that they lack some technological integration aspects, which are required to implement service learning in modern academic disciplines. Therefore,

further studies are required to investigate the significance of technology integration and use of ICT in service learning pedagogy.

Compliance with ethical standards

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