

# Striving for definitional clarity: What is service learning?

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In this paper we attempt to provide definitional clarity about service learning, by undertaking a content analysis of a random selection of texts (2000-2011) selected from two search engines (JSTOR & Academic Premier), and applying the data mining tool, *Leximancer*. Our analysis confirms the main components of service-learning as being ‘community’ and then ‘learning’ and ‘service’, appearing in relatively equal representation; the second level components emerging from the analysis are ‘sense’, ‘experiential’, ‘education’, and ‘engagement’ – again balanced in their weighting. However, our analysis refines these by identifying key relationships between these, and signifiers that help further specify what service learning is. In addition, by drawing on the analysis we are able to distinguish pathways or the process of service-learning. The new contribution of our analysis is in highlighting the need for urgent attention to be paid to conceptualising the concept of ‘reciprocity’ or mutual benefit for stakeholders engaged in service-learning. We conclude by describing a future research agenda in this area.

Keywords: service learning, scholarship, civic engagement, *Leximancer*

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## Introduction

[Service-learning is a] pedagogical tool that has a variety of definitions... In the most general use of the term, service-learning is a branch of experiential education with active engagement as its foundation... I define service-learning courses as those that ‘emphasise academic rigor and the integration of real-world course projects where students produce tangible, professional products for use in the local community as they *work with* and *learn from* organizations to serve community needs’ (Kenworthy-U’Ren, 2003: 52).

Many operational definitions for SL exist. These variations are derived from ideological differences that affect the purposes for which service-learning is used and ultimately the design of service-learning projects ... These differences have implications for how service-learning is used and for how learning is evaluated. Four common rationales or perspectives on using service-learning - community service, moral, political, and instrumental. (Dicke, Dowden & Torres, 2004: 201)

Despite an extensive canon of literature, there is as yet no commonly acceptable definition of service learning, as service learning means different things to different researchers and streams of inquiry. However, with the increased interest in Australian universities in teaching students about ‘civic responsibility’, ‘social responsibility’ and ‘citizenship’ (GAP, 2008), the imperative to establish a uniform conceptualisation of service-learning heightens, as this becomes the delivery vehicle for implementing these teaching and learning programs. In this paper we attempt to strive for definitional clarity about what is service learning, by undertaking a content analysis of conceptual and empirical articles published between 2000 and 2011, using the data-mining tool *Leximancer*.

The research question is *what is service-learning?* In interrogating this question we were interested in clarifying the components of service-learning, and the significance of each component relative to other components, in other words what were the ‘core’ as distinct from ‘peripheral’ components of service-learning. We were also interested in understanding the relationship of these to existing conceptual frameworks. Therefore we selected a framework that whose development coincided with the time span

that the analysis focussed on (that is, 2000-2011) and clearly delineated variables that could be tested using *Leximancer*, that is the four 'R's as proposed by Godfrey, Illes and Berry (2005)– reality, reflection, reciprocity, and reality. Finally, in striving for definitional clarity we sought to understand the process of service – learning, in other words what are the pathways by which learning in service-learning occurs? In pursuing this, we were not interested in the minutiae of how service-learning is implemented, only in terms of the sequence of components and signifiers that comprise service-learning.

We have used *Leximancer* to identify the commonality of various service-learning definitions presented in the literature and the relations between several streams. This analysis provides a basis for conceptualising service learning and promoting discussion about the meaning of service learning and for discovering its antecedents, goals, educational processes and the outcomes/value they offer. The analysis confirms that the core elements of service-learning are the 'learning experience' and the connection with the 'community', with 'reflection' and 'responsibility' being the strongest signifiers that characterise service-learning.

## Methodology

### Data collection

As a result of the large volume of literature, we decided to test for the analysis using two major databases: JSTOR and Academic Search Premier. While both are multidisciplinary, Academic Search Premier is more likely to be used by students whereas JSTOR is frequently used by academics, as the emphasis in JSTOR is on hosting significant scholarly work that is difficult to access, thus making it more attractive to academics working in any field (Schonfield, 2011). Academic Premier (ud) offers indexing and abstracts for more than 12,500 journals and a total of more than 13,200 publications including monographs, reports, conference proceedings, etc., while JSTOR (ud) has more than a thousand academic journals and over 1 million images, letters, and other primary sources.

The search parameters used were the same for both databases as per the following:

Search: ("service learning" OR "service-learning") AND higher AND education.

The following criteria were used in the search:

1. peer reviewed
2. publication date: post-2000
3. available to the University of Western Australia (UWA) as a full text document (within that database).

A significant number of publications on K-12 education emerged from the initial search. This was therefore refined to match our focus on higher education to delimit articles that were not relevant. We further refined the data to focus on the conceptualisation of service learning and exclude the ways in which service-learning was implemented or the outcomes of the programs.

The first 25 results, sorted by relevance, of each search were analysed. Two articles, which initially appeared in the lists were not analysed: the first, because it was a duplicate (reprint) of the preceding article (within the same database), and the second because it was written in a language other than English. In both cases, the next article on the list was analysed, ensuring that 25 articles in total were analysed. Table 1 summarises the number of articles searched, selected and the most common journals from which they were sourced.

The selected articles contain a mixture of conceptual and empirical discussion, and span a range of disciplines, including art, business, computing, health, languages, humanities, and science. It is, however, important to note that the majority of the journals have a teaching or education focus, as reflected in table 1.

**Table 1: Details of search and articles used in analysis**

Database	No. of articles	No. of journals (selected articles)	Most common journals	No. of selected articles
JSTOR	914	16	Hispania (6) Journal of Public Affairs Education (3) Journal of Education for Library and Information Science (2) Journal of Higher Education (2)	25
ASP	2,469	17	Nursing Education Perspectives (4) Journal of Experiential Education (3) Higher Education Research & Development (2) Teaching and Learning in Medicine (2)	25

Reflecting the principle underpinning our data analysis tool, we too did not discriminate in terms of authors when selecting the articles to analyse, as the focus was to extract conceptualisations of service-learning rather than quote specific authors. Nonetheless, in our search, we noted an extensive overlap of reference to authors including Holland, Kenworthy U'ren and others considered significant in this field, especially in the Australian academic genre.

Appendix A provides a full list of the articles used in the analysis. The data passages extracted from these 50 articles for the analysis varied in size from 27 words to 1,843 with an average of 415 words per source.

### Data analysis

We used *Leximancer* in our data analysis to synthesise the multiple definitions provided by scholars for service-learning. *Leximancer* is a software package for analysis of textual data, developed by a small Australian company based in Brisbane. The software automatically identifies key themes, concepts and ideas by mining large amounts of text. This analytical tool provides a means of quantifying and displaying the conceptual structure of text, and a means of using this information to explore the relationships between these concepts.

There are seven steps involved in *Leximancer* (the reader is recommended the descriptions from Smith & Humphreys, 2006; Martin & Rice, 2007; Rooney et al., 2009), and they can be summarised as: extracting the most important concepts from text segments; establishing the co-occurrence of concepts within the text and deriving a semantic network; measuring similarity between concepts and clustering them in themes; presenting the information on a topical map. *Leximancer* uses mathematical algorithms to determine the most frequently used concepts within text and the relations between those concepts. The concepts that subsequently emerge are highly ranked lexical terms based on word frequency and co-occurrence use. They are arranged on a topical map according to their similarity, thus forming concepts groups, referred to as themes.

*Leximancer* has been successfully used in a variety of domains for several purposes, including literature reviews, clustering/segmentation of population, and understanding attitudes and behaviours (Scott & Smith, 2005; Martin & Rice, 2007; Stockwell et al., 2009; Strong et al., 2009; Rooney et al., 2009; Cretchley et al., 2010).

We applied *Leximancer* for its robustness, efficiency, and demonstrated validity. As Smith & Humphreys (2006) pointed out, *Leximancer* reduces subjectivity in manual coding, it eliminates the need for coder training and testing for inter-coder reliability, and it can be easily applied for mining large quantities of text (a tool by which to conduct a content analysis). The main advantage of *Leximancer* is its inclusivity: it considers every submission in the analysis and does not discriminate in the reading. Thus using *Leximancer* provides the opportunity to capture all 'voices', as there is no human decision-making about the value or censoring of the information.

## Understanding *Leximancer* maps

*Leximancer* provides two types of maps: the perceptual map and the conceptual cloud. In the perceptual map, themes (circles) and their concepts (dots inside the circles) are presented along with the most common connections that appear in the text (a grey network). The shade of the concepts provides an indication of the ‘importance’ of the concepts, the darker the label, the more frequently the concept appears. The conceptual cloud presents the same concept information as the perceptual map. The concepts are heat-mapped, red representing the most relevant concepts and cool colours (blue) the least relevant.

While some themes may appear disconnected, the reader should attribute equal importance to the location and connectedness of all themes: that is, while central themes have higher frequencies and are highly connected, and peripherally located themes have fewer connections and are less determinant in the network, the position and relevance of peripheral themes must not be discounted. The reason for their appearance is that the analysis has detected a frequency justifying their representation. In addition to using the term ‘themes’ to refer to the most frequently occurring concepts clustering together, we also use the term ‘outliers’ to refer to those concepts that sit outside the main themes. Finally, the term ‘signifiers’ is used to refer to in-text notations within a theme or outlier, and the grey lines are used to substantiate the interpretation of pathways.

However, while *Leximancer* offers an analytical dimension for the investigation of relationships, the results are still subject to interpretation. In addition, several conditions for analysis may influence the maps: the number of sentences analysed per segment, seeding manually concepts or killing concepts are likely to alter the network structure (because in *Leximancer* the primary concepts are displayed in order of their frequency in the text). Keeping this in mind, we thus ran the analysis multiple times as a check for the stability of the maps.

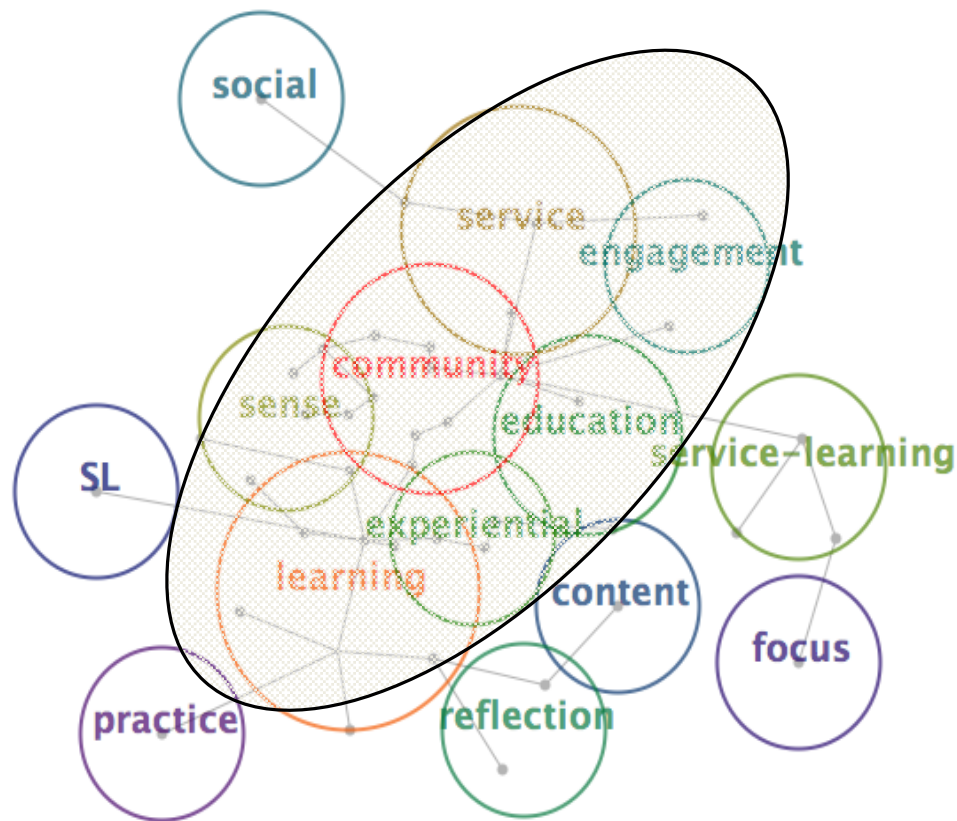
## Findings and discussion

In the first analysis (see Figure 1) there is no ‘seeding’ of particular concepts: these only appear because of the high incidence in the texts. As can be noted *community* is the central theme of this map with interconnections with *learning* and *service* on both sides. That is, our interpretation is that the map suggests that *community* is the focal point (red) and *service-learning* suggests student learning through working with the community.

Thus, we interpret this map to propose that the ‘core’ components of service-learning are *community*, *learning* and *service*: hence the bold ellipse that we have drawn around these components. However, the map also refines these components.

Based on the connectors (grey lines) and proximity of concepts, we would argue that service-learning means *education* and *engagement*, that is service-learning should ‘educate’, but also be based on ‘engagement’. Using the map, core components of community can be refined as per *education* in relationship to *experiential* and *sense*, meaning that the community is also engaged in education by either being a site for learning or providing education; but working *with* the community involves experiential engagement that makes ‘sense’ or is easily understood. Finally, *learning* has significant overlaps with (being) ‘experiential’ and again (needing to make) ‘sense’. In summary, this raw data analysis refines our initial conceptualisation of ‘core’ and ‘peripheral’ components to suggest that the principal themes of service-learning are *community* with *learning* and *service*, appearing in relatively equal representation; while second level components are *sense*, *experiential*, *education* and *engagement* – again balanced in their representation.

However, the ‘outliers’ in this map are also of importance as they only appear *because* of their frequency in the text. Particularly important is the positioning at the bottom right of the map of the institutional perspective. Here we interpret *content* to be suggesting that service-learning is associated with either formal curriculum or is seen as a practice activity that also embraces *reflection*.



**Figure 1: Initial map without manual seeding of the concepts**

The pathway from *focus* to *service-learning* through to *education* and finally *community*, with the various associated concepts is one of our findings about the ‘process’ of service-learning: that is, the focus in service-learning is on *education* with the *community* that is both *experiential* and based on *engagement* and hence results in (or has as its outcome) *service* that is targeted at *social* issues or needs. Drawing on the ‘outliers’ surrounding principal and second-level concepts we can identify another ‘pathway’ or ‘process’ of service-learning: that is, the *learning* in service-learning draws on *content*, *reflection* and *practice*, which makes this an *experiential* and *sense* making, thus coalescing into *service-learning*.

In summary, the map reassures us that service-learning can be taught, but it is an activity that requires reflection, practice and engagement in social issues/needs. We would argue that the findings subsequently distinguish service-learning from other various teaching and learning practices. This is particularly in reinforcing the concept of *reflection*, which it is argued, is a key component of service-learning (Knapp, Fisher & Levesque-Bristol, 2010). *Reflection* promotes critical assessment by students and faculty of the effect of their programs/activities on the community, students, and even faculty. The pathway from *service* to *social* is also indicative of the influence of service-learning on the development of student civic responsibility, and by implication, the engendering of social responsibility. This is a dominant theme in terms of the value of service-learning in the literature for students (Ballantyne & Phelps, 2002; Ngai, 2006).

The conceptual cloud (see Figure 2) provides similar confirmation of this pedagogical integrality of service-learning. The concepts with the highest relevance in this map are: learning 100%, service 93%, community 70%, students 67%, service-learning 51%, education 23%, and civic and needs both with 20%. What is of interest here is the frequency of the concept *student*, and particularly its position between *community* and *learning*, suggesting that the learning by students and their engagement with the community eventuates in service. Taking note of the variables surrounding these main concepts

(such as for instance opportunities, classroom, active etc.) once more signal influences that both inform and moderate the pathway that learning (with) students (in the) community (results in) service.

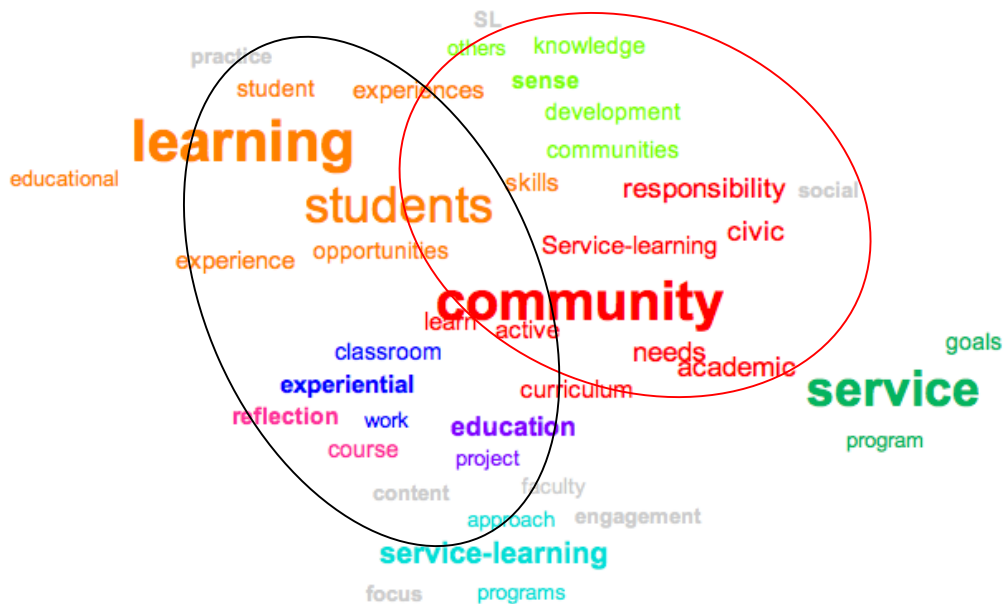


Figure 2: Conceptual cloud without manual seeding of the concepts

### Multiplicity of the service-learning terms

In the second analysis we began our process of ‘seeding’ the data in order to assess the commonality of our findings with the literature, and of course explore new findings that emerged. We firstly merged similar descriptors of service-learning on the basis of frequency, and sourced commonly used terms/keywords appearing in the articles such as *community service*, *civic responsibility*, *social entrepreneurship*, *community-based education*, *citizenship*, *scholarship of engagement* in the set of concepts. Figure 3 shows the results from this analysis. As can be noted, some of the same components emerged from this analysis as were noted in the unseeded analysis: that is *community* and *service-learning* emerged as key components. However, the map also confirms the importance of *experience* (or experiential or engagement) with the community alongside *responsibility*, which drawing on our previous interpretation, aligns with *social* in denoting outcomes from service-learning as possibly relating to civic engagement and social responsibility.

However, the strength of *responsibility* and its proximal position with *service* and *content* is significant to note as this is the first time it appears in our analysis, yet reinforces the argument in the literature that service-learning is an activity that necessitates all stakeholders, that is, students, faculty and community to act ‘responsibly’ (Eyler, Dwight, Giles, Stenson & Gray, 2001). That is, service-learning should be a formal, curriculum-based activity which not only prepares students to act responsibly in their engagement; but also places an onus on faculty to assume this responsibility and of course the community to assume a similar responsibility (Holland, 1997). The number of signifiers clustering in the component *community* in Figure 3 both reinforces this argument, as well as alerts us to the fact that careful attention needs to be paid to how community engagement is structured in service-learning. Holland (1997) in particular emphasises the role of community in service-learning and argues that it is at this level that differences in how institutions are involved in service-learning appear. Many institutions offer service-learning without a philosophy of community engagement: the density of signifiers in the component *community* in Figure 3 and the proximity of community to all other components, emphasises the need for considerable attention to be paid to this component in offering service-learning programs.



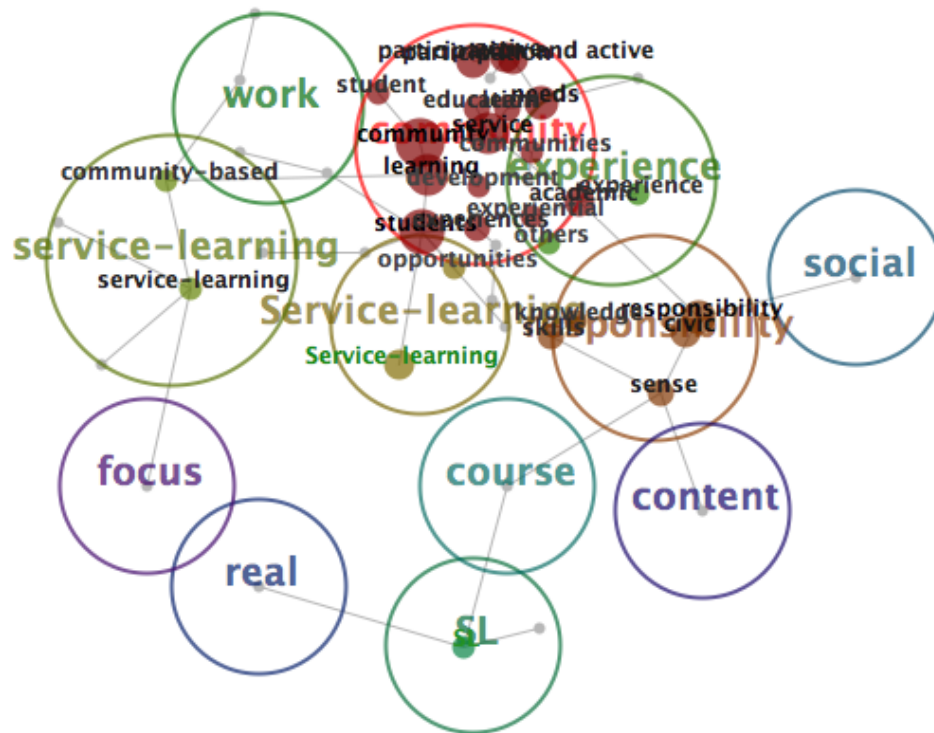


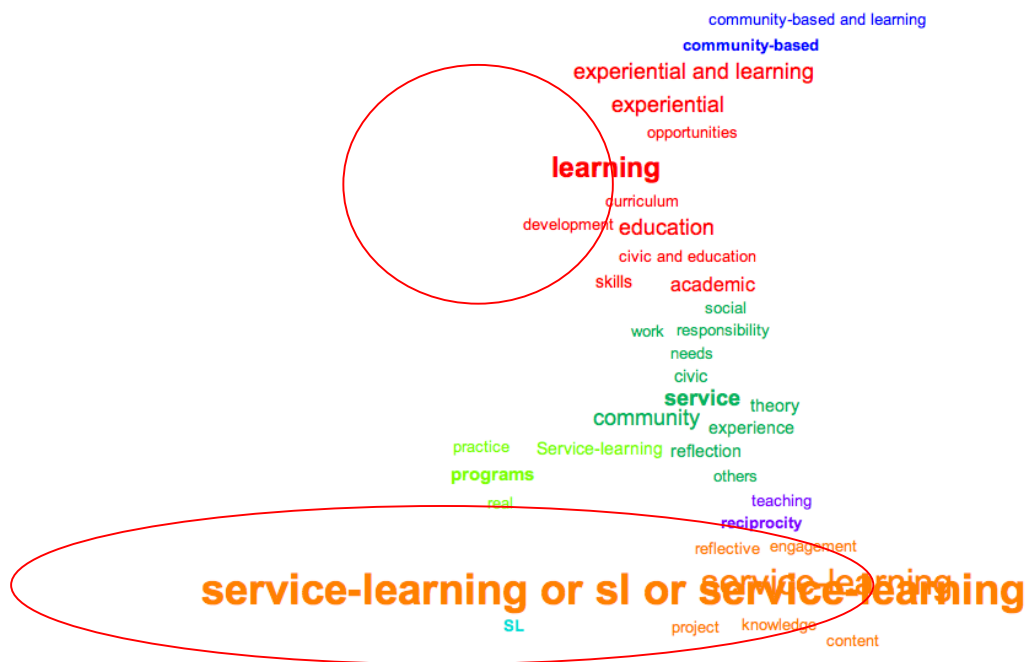
Figure 3: Perceptual map with manual seeding of the concepts

### Matching the 4 'R's

In this analysis we tested a conceptual framework that coincided with the period of our analysis and had clearly delineated variables for testing. Godfrey, Illes, & Berry (2005) identified four 'R's as elements of service-learning: reality, reflection, reciprocity, and responsibility. We forced the data by seeding these 4 'R's' into the *Leximancer* list of concepts to test how well they are reflected in the 50 articles. *Reality* means that students apply academic content in real world settings, grappling with real world issues and engaging in real work. *Reflection* requires students to think deeply and write cogently about how the service experience has affected them and assists in Dewey's (1938) 'organic connection' between the experience and the individual. *Reciprocity* ensures that both service recipients and students gain from the exchange. *Responsibility* focuses on professionalism in that students should assume the obligations of citizenship and use their skills to better those communities where they live and work. Figure 4 presents the conceptual cloud that emerged from this analysis.

As can be noted, all 4 'R's' appear in the cloud as per Figure 4, but at different stages and in relation to different components. Thus *reflective*, *reciprocity* and *real* are all proximally located to *service learning* whereas *responsibility* is upper in the cloud and could be interpreted as significant in the community-based learning that emerges from service-learning (that is learning about the community and with the community). The strength of *responsibility* in comparison to the other 'R's' reinforces this argument. This also accords with the previous analysis about responsibility: in summary, *responsibility* appears as a key signifier in service-learning.

However, we can read the other signifiers (regardless of their strength) in this cloud as also informing us about those aspects that require consideration in implementing service-learning. Within these, it is important to note the appearance of *reflective engagement* and *reflection*. The proximal position of *reflective engagement* to service learning suggests that this is a facet – along with *project*, *knowledge* and *content* – that characterises the implementation of service-learning. The position of *reflection* between service-learning and learning and its proximal location to *others*, *experience* and *community* signals reflection as a process issue, that is, *reflection* is a process that contributes to the learning (uppermost circle) in service.



**Figure 4: Conceptual cloud with manual seeding of the 4R concepts**

Finally, we obtained the map of themes presented in Figure 5. ‘Service learning’, the core theme, is an educational philosophy, surrounded by *civic engagement* and *collaborative work* with *communities*. The map also informs us that service-learning activities are not esoteric learning experiences, they should address the needs of the community. As suggested by the map, the highest relevant values are ‘service-learning’ (100%), ‘community’ (47%), and ‘education’ (45%). When considered as concepts, *reflection* is still the strongest (relevance of 28%), followed by *responsibility* (8%), *reciprocity* (2%), and *real-world* (1%). The map indicates that the relationship between university and community should be collaborative with reciprocal benefits. Service-learning is a vehicle for community empowerment and the experience addresses the needs of the community. This modus operandi delineates service-learning from volunteerism and other modes of service in which the transfer of knowledge is assumed to be one-way.

However, the gap between *reciprocity* and the other aspects of the map resonate with the previous analysis: that is as per our discussion in reference to Figure 2, the proximal location of *reciprocity* is suggestive of two related issues: the first is the lack of a philosophy of engagement with community that can harness the many untapped opportunities that exist in working with community, while the second is the acceptance of a responsibility by all stakeholders that service-learning should be mutually beneficial. A challenge to exploring this is of course the difficulty of reaching this mutuality to the satisfaction of all stakeholders engaged in service learning, that is, community, institution, faculty and, of course, students. In contrast to the United States where service-learning now has a long and rich history (Kellogg, 2007), the embryonic nature of service-learning in the Australian university sector suggests that attaining this stage will require active debate and awareness raising amongst all the stakeholders about the aims as well as benefits of service-learning.

#### **In summary ...**

The conceptual cloud in Figure 6 summarises many of the findings we have presented thus far: the proximal position of the indicators under the main concept of service-learning confirms that it is a *community-based activity* that requires *service*, a *sense-making project* and an *experiential program* necessitating *reflection* in particular. However, to accomplish *real-world practice* (the



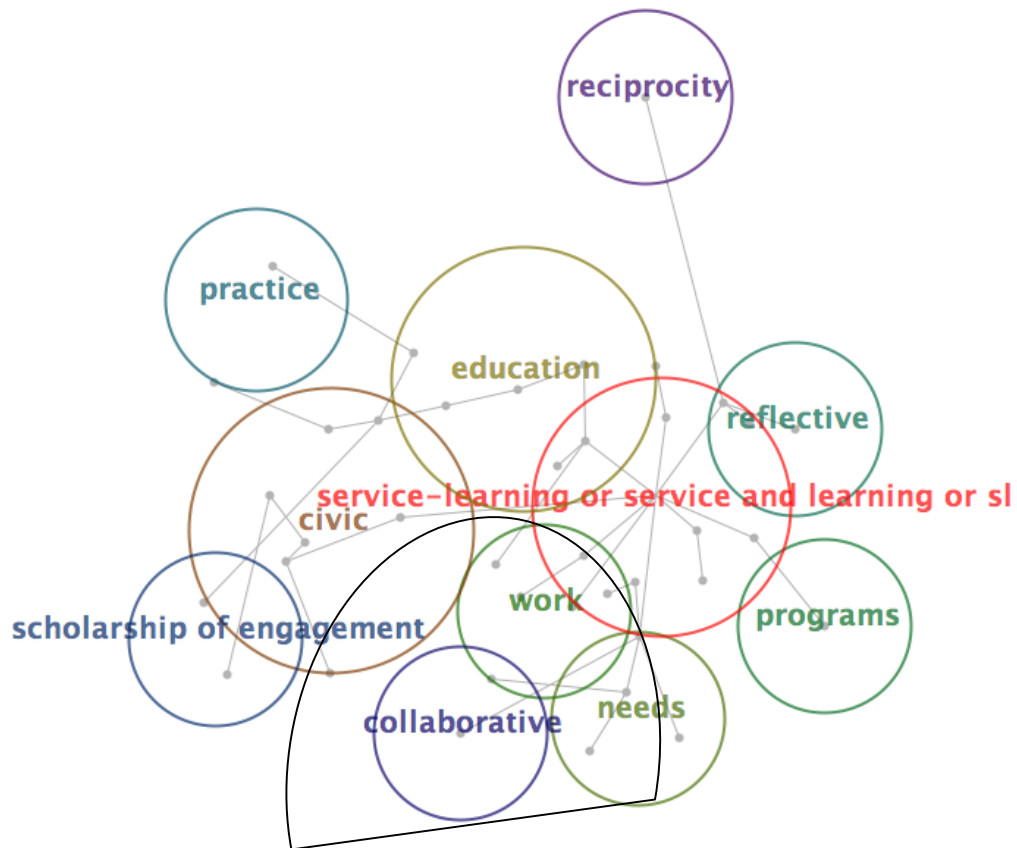


Figure 5: Perceptual map including the 4R concepts

uppermost signifier in the cloud), the process of service-learning entails signifiers such as *work*, *teaching*, *knowledge* and *responsibility* by all stakeholders in their engagement. We would argue that this depiction explicitly distinguishes service-learning from other similar activities such as volunteerism and community service, and hence contributes to clarifying its definitional meaning.



Figure 6: Conceptual cloud including the 4R concepts

## Implications and conclusion

The use of *Leximancer* has enabled us to empirically substantiate aspects within the current body of literature that distinguishes service-learning, and refine these in order to understand ‘what’ service-learning is as well as distinguish signifiers that inform a conceptualisation of service-learning. In summary, the main components of service-learning are *community*, *learning* and *service* appearing in relatively equal representation, followed by a second tier components such as *sense*, *experiential*, *education* and *engagement*. The analysis of the 4 ‘R’s highlighted that of most significance are *responsibility* and *reflection*, while *real* appears as an outcome measure. However, *real* is evidenced in other ways such as *sense* and *experiential*. The findings also highlight ‘pathways’ in the process of service learning: we have discussed these in reference to Figures 2 and 4. Again, this resonates with current conceptualisations of service-learning in the literature, but refine these by identifying the denominators that inform these pathways, that is the process of service-learning. While the 4 ‘R’s represents one model, it would be beneficial to interrogate the data with other concepts and/or themes from other frameworks.

Apart from contributing to definitional clarity about service-learning, we would argue that the additional value of this analysis has been: to refine the signifiers inherent within the components of service learning, to identify pathways or the process of service learning and finally, to highlight the under-developed conceptualisation of the concept of *reciprocity* in service-learning. We suggest that this is an area that requires attention. The urgency of this task lies in both our analysis and the common-sense understanding of service-learning: that is, without the ‘community’ there is no service-learning. Hence exploring a mutuality of benefit for all stakeholders in service-learning remains a critical task for completion.

Finally, we will draw on this research to inform the development of a matrix that can be used in auditing curriculum-based activities for their service-learning; as well as a further research program that seeks to better establish the ‘value proposition’ of service-learning for all stakeholders. We expect that this exercise will result in a conceptualisation of reciprocity that may be a useful contribution to debate in this field.

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## Appendix A: Articles used in *Leximancer* analysis

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