Australian Journal of Teacher Education

Volume 36 | Issue 6 Article 2

2011

I Know What Literacy Means: Student Teacher Accounts

Sorrel Penn-Edwards
Griffith University

Recommended Citation

Penn-Edwards, S. (2011). I Know What Literacy Means: Student Teacher Accounts. *Australian Journal of Teacher Education, 36*(6). https://doi.org/10.14221/ajte.2011v36n6.4

I Know What Literacy Means: Student Teacher Accounts

Sorrel Penn-Edwards
Griffith University
s.pennedwards@griffith.edu.au

Abstract: This paper explores beginning pre-service teaching students' common perceptions of the meaning of the term literacy. The methodology used is described in terms of phenomenographic analyses and the outcome, an array presentation of concepts in diagrammatic form. It establishes that students' conceptions of literacy are embedded predominantly in the reading and writing of written texts which is at variance with contemporary teaching practices of critical literacy. This paper proposes that this process and presentation is useful to pre-service teaching institutes in engaging in the debate highlighted in recent public reports, of the need to demonstrate competency in literacy as a condition of Queensland teacher registration.

Introduction

Informal appraisal of tertiary first year education student work over a number of years showed that the term literacy was interpreted, almost solely, by reference to reading and writing. This is contrary to the meaning of literacy used in contemporary practice to cover the need to communicate through new technologies and to facilitate wider social, cultural and political relationships (United Nations Educational, Scientific and Cultural Organization, 2011). The limited and simplistic beliefs of students became the catalyst for this study.

Among the first academic educators to be interested in this topic Paulo Freire in 1970 argued that being literate was much more than just the first two of the three *Rs (reading, 'riting,* and *'rithmetic*), it was an ability to engage in *dialogue* (2004, p. 87) thus removing *literacy* from its conventional meaning and situating it in the *sociocultural* context (Lankshear & Knobel, 1998). Street (1984) identified the former as an *autonomous* model of literacy where it is a technical process of learning to "decode letters", the attainment of which influences the realms of intellect and social behaviour (2001, p. 7), and the latter as an *ideological model* where literacy is itself a social practice (2001, p. 7) where it is intertwined with social institutions and relationships (Hamilton, 2000, p. 16).

The movement for a revised definition of *literacy* appears to be worldwide. The Education Development Centre (2000), a global nonprofit organization and the American National Institute for Literacy (2007) see it as a necessary skill to survive in today's world and to be capable of working with written, numerate, and visual codes and conventions (p. 2).

The British government also recognised the new roles of literacy aiming to increase the numbers of secondary students who attain Level 4+ in the national curriculum of English (Department for Education, UK, 2009) where the key concepts

are competence, creativity, cultural, and critical understanding (Qualifications and Curriculum Authority, 2011).

In Australia, literacy is seen as a fundamental skill that is crucial not only to an individual's educational or socioeconomic future but for the nation's role in international affairs (Department of Education, Employment and Workplace Relations, 2011, para. 6). Australia has recently developed a national curriculum for English, mathematics, the sciences and history (National Curriculum Board [NCB], 2009, p. 4). However, in schools literacy and numeracy will need to adapt as the curriculum continues to change, as they will always underpin higher education and lifelong leaning (NCB, 2009, p. 10).

Education in Queensland has focussed on this *critical literacy* as a framework for the English curriculum since 1994 (Queensland Department of Education [QDE], pp. 1-2) which has been increasingly reinforced by the subsequent syllabi. This development of effective literacy skills brings into question how the text is constructed and who forms the preferred audience (Freebody, 2007, p. 53). This forms the basis for current educational frameworks where it is pursued by way of a multiliteracy pedagogy for understanding using the various modes of communication (Queensland Schools Authority [QSA], 2010, p. 4).

In Tasmania, the Department of Education (2009) makes clear its expectations that *effective literacy* teachers should demonstrate *best practice* citing under *The Attributes of a Good Literacy Teacher,* Braithewaite (1997) who states that such teachers would hold and articulate "clear and cohesive views about the meaning of the term *literacy*" (para. 2). The importance of new teacher literacy is also emphasised in the recent Masters' report (2009) which gave recommendations for improving literacy, numeracy and science in Queensland primary schools, acknowledging that there have been concerns about competency and confidence (p. ix). The first recommendation is that "all aspiring primary teachers be required to demonstrate through test performances, as a condition of registration, that they meet threshold levels of knowledge about the teaching of literacy" (p. 66). This has raised much debate, with the Queensland Teachers Union (2009)who although in agreement in principle, think the diagnosis, mastery and testing processes should occur during pre-service training not post-training when registration takes place (2009, p. 1). Although Masters (2009) defines *literacy* in line with *The National Assessment Program - Literacy and Numeracy* (NAPLAN) as being "reading, writing, spelling, grammar and punctuation" (ix) and as separate from "language" (p. 67) the demonstration of an understanding of critical literacy is more than presenting competency in these skills.

Tertiary academic programs now require that pre-service student teachers be immersed in developing best practices in literacy and for academic staff to be aware of their students' initial limited knowledge and understandings of literacy. Studies on the status of higher education student literacy based on students' own responses such as Milton, Rohl, and House (2007) and Krause, Hartley, James, and McInnis (2005) tend to be quantitative using a Likert scale to establish student perceptions.

To gain an understanding of beginning teaching students' conceptions of *literacy* as a foundation for developing effective tertiary courses a phenomenographic study was undertaken by the author. This methodology was also used by Williams and Wavell (2006) in their study of secondary teachers' understandings of information literacy. For the cohort of students surveyed in this study, the Queensland English syllabus (QDE, 1994) was framed by *critical literacy perspectives* (p. 1). Students entering tertiary education will have completed 12 years of English at school. Although it might be expected that student conceptions of literacy would have

expanded and, or gained in depth from aspects of their English studies it had been the author's experience, from twenty years of undergraduate tertiary teaching, that students retained a traditional 3Rs perspective – Street's (2001) autonomous model - of *literacy.* There is sparse comment in the literature from a student's perspective on this topic.

Methodology

Phenomenography is a research approach, which aims to capture and analyse participants' subjective observations and experiences. Phenomenography was founded in the early 1970s in Sweden (Marton, 1994a, pp. 4424 – 4429) where it is still predominant as a form of inquiry and principally used in exploring the phenomena, or experiences, of "learning, studying, communication, teaching and instruction" (Svensson, 1997, p. 161). As such it is interested in the character of knowledge "in terms of the individual's understanding of something in terms of the meaning that something has to the individual" (Svensson, 1997, p. 163). The research process searches for the relationships between individuals and how they learn, think and understand *things* in the world (Marton, 1986, p. 43).

By definition, phenomenography aims to identify the "qualitatively different ways in which people understand a particular phenomenon or an aspect of the world around them" (Marton & Pong, 2005, p. 335). It is centred in the content of the thinking process, not the phenomenon itself or the people who are thinking of it but how they perceive of it whether it be a correct understanding or not (Marton, 1986). It is an experiential approach that aims to "characterize how things appear to people" (p. 33) and searches through people's responses about a phenomenon to find distinctive characterisations.

Early research has shown that although there is a range of interpretations of how people think about and understand a particular phenomenon, any investigation is underpinned by the "recurring principle … that … it is possible to identify a limited number of qualitatively different and logically interrelated ways in which the phenomenon or the situation is experienced or understood" (Marton, 1994b, p. 4425). The outcomes of phenomenographic study are to present the variations of understandings found in a group of people which are able to be assessed in terms of levels, from simple to complex (Bowden, 2000a, p. 50) and which in a limited number of ways are able to be shown visually in a hierarchically structured map known as an *Outcome Space*.

Phenomenography has been successfully used to study students' conceptions of broad areas of learning such as energy (Lyle & Robinson, 2002), ethnic diversity (Peck & Sears, 2005), and environment (Loughland, Reid & Petocz, 2002). Formal disciplines such as chemistry (Ebenezer & Fraser, 2001), economics (Tang & Williams, 2000), and information systems design (Rose, Le Heron & Sofat, 2005) also lend themselves to such examination.

Research Data

This study was conducted in three stages: (1) the collection of data where short written responses to two open ended questions were obtained from students, (2) an analysis of the data using phenomenographic techniques to identify explicitly

expressed concepts in the responses and to show their logical relationships in Outcome Spaces; and (3) a comparison of the Outcome Spaces from each of the two question.

Stage (1) Collection of data: Survey
The research participants

The survey was conducted with first year education students on their first Orientation day in Semester One 2006 at a Queensland university before they had been introduced to any course material. The survey was given as a hard copy printed form requiring short written answers. The study was granted ethical clearance by the University Office for Research and each participant granted informed permission on a standard privacy statement. The responses were anonymous to ensure confidentiality.

The total number of students attending was not recorded but of the 309 students volunteering there were 55 secondary (English majors) and 254 primary pre-service teachers. The majority of students were under 30 years of age (87%) with 16% males to 84% females. Participants were asked for demographic information which may have relevance in identifying their literacy levels. Participants had at least an approved tertiary entrance level of literacy meaning that students had attained at least a pass in Senior English (or an equivalent) at secondary school and the requisite formal institution entry level to be offered a place in the program. The majority of students were new undergraduates directly from secondary school but 16% had post-school study including Bachelor and Diploma programs in twenty different disciplines.

In addition to education, participants were asked about their employment background. Many indicated that they had undertaken work experience before enrolling in the education program but this was only counted if the position would seem to require a reasonable standard of commercial literacy and included a wide spread of employment categories (63%).

The survey questions

The first two questions of the survey aimed to establish students' conceptions of literacy and are the focus of this paper. These were:

Q 1. What do you think the term *literacy* defines?
Q 2. What do you think the role of literacy is in learning and education?

Respondents were then asked to identify their literacy skills, how they would develop these further during their studies, and to rate a list of literacy related competencies they felt a competent teacher in their area of study (primary or secondary English) should possess (Penn-Edwards, 2010b).

Phenomenography tends to concentrate on transcripts of in-depth interviews (Marton, 1986, p.42), In a phenomenographic survey the questions are open-ended to encourage an unrestrained response on how the respondents conceive of the phenomenon in question, or as Bowden (2000b) describes it, to allow them to "decide on those aspects of the question which appear most relevant to them" (p. 8). The questions are "designed to be diagnostic, to reveal the different ways of understanding the phenomenon within that context" (Bowden, 2000b, p. 8). A response rate of 94% (291 replies) and 89% (274 replies) was received to Q 1 and Q 2 respectively.

Stage (2) Phenomenographic analysis of data

A phenomenographer looks for the concepts held by the participants as expressed in their responses to survey or interview questions. The data is searched for in "utterances found to be of interest" (Marton, 1986, p. 42) which are interpreted from the context in which they are given. All the responses were short answers in the survey reported upon here and so an utterance tended to be a phrase/sentence. At this point the utterances are separated from the individual respondent and all together make up the data pool (Åkerlind, 2002, p. 3). Analysis of the pooled data is "a strongly iterative and comparative one, involving the continual sorting and resorting of data, plus ongoing comparisons between the data and the developing categories of description, as well as between the categories themselves" (Åkerlind, 2005, p. 324).

The transcript data was then manually sorted and conceptions categorized phenomenographically into *categories of description*, that is the written responses were scanned for expressions of how *literacy* is conceived, listed, and grouped according to the concept displayed, then consolidated through reiterative sorting and labeled using key terms from the group of expressions or a generic description, and finally qualitatively assessed to establish a hierarchy of meanings of conceptions. The categories of description for each question are mapped in an Outcome Space showing the logical relationships between them

Analysis of data for Question 1. What do you think the term literacy defines?

(i) Sorting and categorization

This question received 291 responses, being a response rate of 94%. A phenomenographic analysis was carried out with the responses looking to discover key concepts. Phrases expressing similar ideas showing "sufficient evidence that a particular *overall meaning* [of literacy] had been expressed" (Marton & Pong, 2005, p. 337) were identified and placed into 17 groupings (Tab. 1, column 1). Where responses were couched in terms of comprehensive generalities, generic descriptions were adopted; *everything* for those that listed most or all of the other concepts and *alternative* for those which presented a very different viewpoint, exemplified by "literacy is the essence of life". Following the iterative nature of phenomenographical analysis the extracted data was further able to be pooled and the 17 groups were able to be placed into 7 smaller groupings (category) (Tab. 1, column 2).

These were then examined in order "to identify within each unit [i.e. category] the elements of the phenomenon that were focused upon and to devise a description" (Marton & Pong, 2005, p. 337). Using terminology selected from the responses these *categories of description,* as they are termed in phenomenography, were descriptively labelled (Tab. 1, column 2). Each represents a way of experiencing the phenomenon of literacy (Cope, 2004, p. 6).

Groupings of data – key words (17)	Categories of description (7)
▪ written (text) ▪ text/literature/information	1. texts (written)
▪ reading	2. skills (reading & writing – Q1 grammar)
▪ writing skill / process / ability ▪ learning/ability	
▪ reading and writing	
▪ grammar/spelling/vocabulary/syntax	
▪ reading, writing and texts ▪ speak/read and/or write (listen, visual)	3. skills & texts (reading, writing, speaking, text)
▪ English (subject)	4. subject English
▪ language (English)	5. language knowledge (language, English as language)
▪ communication	6. communication (Q1 through understanding of the written word)
▪ interpret/understand/respond ▪ expression - written	
▪ read/write and understand/ comprehend/evaluate ▪ 'everything' ▪ 'alternative'	7. combinations of most or all of the above and "literacy defines life", "literacy is the essence of life."

Table 1: Question 1 Phenomenographic Data Groups and Categories of Description

The short category descriptors are able to be illustrated by examples of the given data which express clearly the conception. Responses to Q 1 What do you think the term *literacy* defines? are identified by participant numbers with the suffix letters PA referring to the primary cohort at campus 1, PB primary cohort at campus 2, and S to the secondary cohort. Replies may be grouped under the following headings:

(1) texts (in its more liberal form but predominately written) - literacy to me is all things related to literature (PA83); the words and readings that are constructed to illustrate different texts and their meanings (S38). they take various forms such as orals, poems, short stories etc.; it defines all forms of information (PA138);

(2) skills (reading & writing - grammar) - for an individual to have the ability to read or write, therefore being able to continue to learn with these aspects and becoming more literate (PB33); literacy is the use of words for expression through reading and writing (PB85); Reading, writing – grammar (PB21)

(3) skills & texts (reading, writing, speaking, text) - reading, writing, learning about texts (S44);

(4) subject English - I think literacy defines anything to do with English as a subject taught in schools (PB72); all things connected to English things, the way someone speaks, writes etc.(PB90);

(5) language knowledge (language, English as language) – I think literacy explores language and the way that it is used (S43); it defines the words we use today and what ones we continue to use from the past (PA7);

(6) communication (through understanding of the written word) - ability to interpret and understand meaning from information communicated by various channels (PA69); literacy is the way in which we communicate with each other (PA16);

(7) combinations of most or all of the above such as "a world of knowledge, books, words, reading and learning" (PA131) and "literacy defines life" (S41), "literacy is the essence of life." (S40)

(ii) Mapping of concept clusters and categories of description

The 7 categories of description identified by phenomenographic analysis in (i) which identified the manner in which literacy as a phenomenon is conceived by beginning pre-service education students (Tab. 1, column 2) can be shown diagrammatically in an outcome space as a set of logically related categories (Fig. 1).

The outcome space "describes the variation within the group, rather than rich descriptions of individuals" (Trigwell, 2000, p.81). The final format of an outcome space is dependent on the nature of the categories of description and may be shown in a table or a diagram. The process of constructing an outcome space is like the sorting and categorizing of data, a rather lengthy manual consideration of categories of description searching for the relationships between them. For example in the data above at the broadest level there are two distinct sets of relationships between(a) literacy as a form of communication (category 6) and (b) literacy as a skill or knowledge (categories 2, 3, 4 & 5). Texts (category 1) is a category of description that both have a relationship with. Thus it is a matter of seeking out the manner in which all of the categories of description relate to each other. As is acknowledged by phenomenographers it "need not be the *only* possible outcome from the data" (Åkerlind, 2002, p. 10) and although it is justifiable by the researcher it cannot be "empirically proven" (p. 10).

The Outcome Space displaying categories of description (boxed) and concepts (circular nodes) and the responses to Q 1. *What do you think the term literacy defines?* show that there is a limited number of distinctively different ways of understanding the phenomenon of *literacy*, that is as (a) a form of communication - through understanding of the written word, and (b) as a skill or knowledge - understanding of language and English as language (with a grammar based reading, speaking, writing focus) all with a basis in written text (Fig. 1).

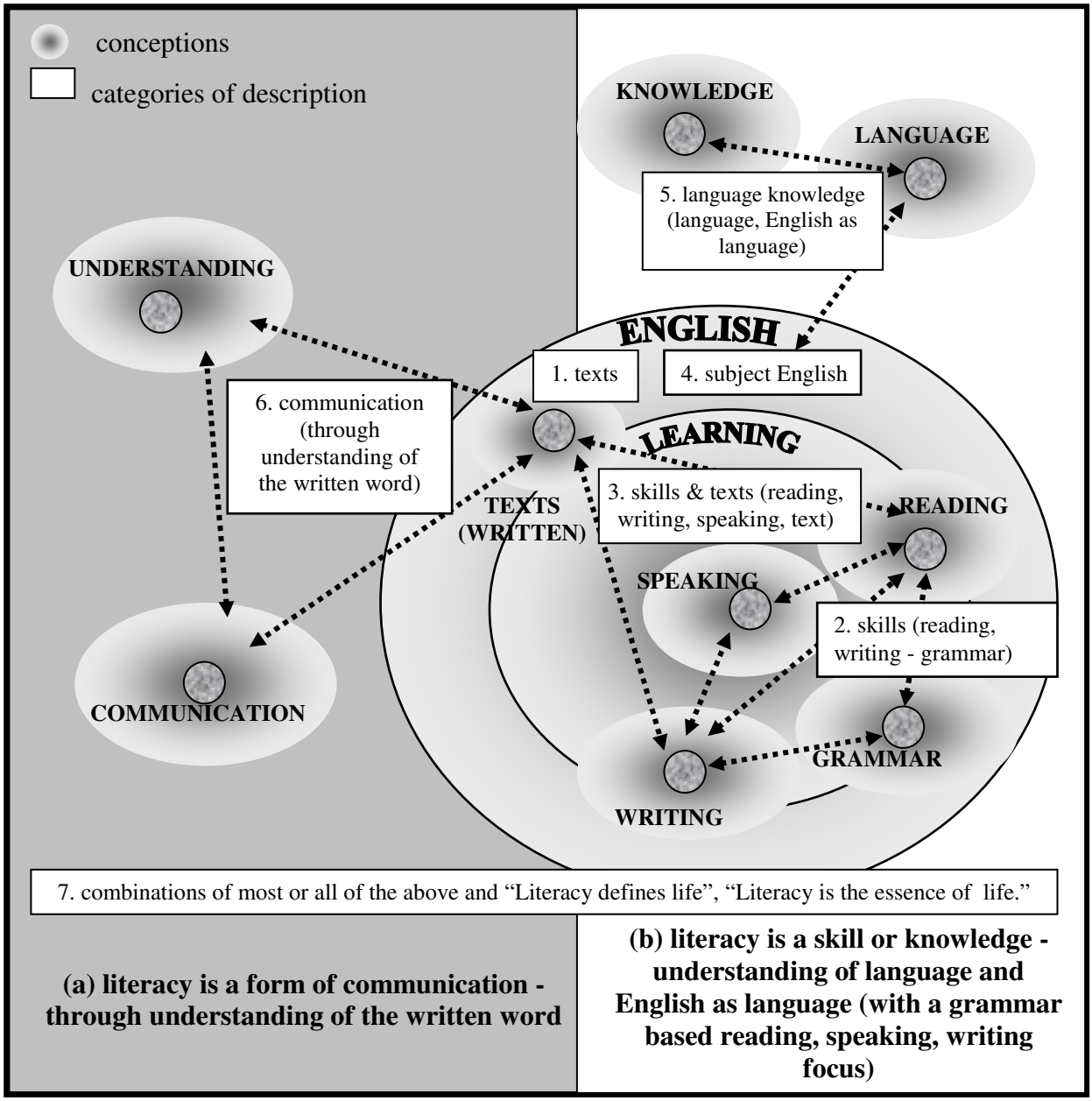

Figure 1: Question 1 Literacy is defined as (a) a form of communication (through understanding of the written word), and (b) understanding language English as language (with a reading & writing)

Analysis of data for Question 2. What do you think the role of literacy is in learning and education?

(i) Sorting and categorization

This question received 274 responses, a rate of 89%. As for the Q 1 data a phenomenographic analysis was carried out with the data responses to Q 2 and the recognised concepts sorted into 18 groups and identified by abstracting key words from the data in that group. In the case of one group where the responses were couched in terms of comprehensive generalities, a generic description was adopted – *everything* – for those that listed most or all of the other concepts (Tab. 1, column 1). These 18 groups were further able to be placed into 9 categories (Tab. 2, column 2), using 5 of the headings previously identified from the data in Q 1 (categories 1, 2, 5, 6, 7) with 4 new categories (numbered 8-11). Two categories shown in the Q 1 data

which were not identified here were *skills & texts* (*reading, writing, speaking, text)* and *subject English.*

Groupings of data – key words (1-11 of 18)	Categories of description (5 of 9) from Q 1 analysis
▪ texts (written) ▪ genres, medias	Q1. 1 texts (written)
▪ reading, writing ▪ undertake tasks / subjects ▪ teacher, teaching	Q1. 2 skills (reading & writing)
▪ English ▪ language	Q1. 5 language knowledge (language , English as language)
▪ understanding ▪ communication ▪ express, expression	Q1. 6 communication (Q2 through expressing knowledge)
▪ everything	Q1.7 combinations of most or all of the above

Groupings of data – key words cont (12-18 of 18).	Categories of description specific to Q 2 analysis (4 of 9 numbered 8-11)
▪ major / vital / basic ▪ building block	8. foundation
▪ life skill ▪ personal growth / development / awareness	9. personal development
▪ gain knowledge, information	10. knowledge
▪ process / medium / link ▪ delivery / method / tool	11. a means

Table 2: Question 2 Phenomenographic Data Groups and Categories of Description

Responses to the second question (What do you think the role of literacy is in learning and education?) centred around:

(1) - from Q 1. skills (reading & writing) – but without the grammar connection

(2) - from Q 1. texts;

(5) - from Q 1. language knowledge (language, English as language);

(6) - from Q 1 communication (through expressing knowledge not specifically through texts); important as it is a means of communicating with students, passing on knowledge (S30); it allows students to express their knowledge and understanding (S13); an important role in enabling students to participate, understand and communicate in their society (PB75)

(7) - from Q 1. combinations of most or all of the above; with similar responses to those examples given in Q 1 and:

(8) foundation - extremely important (PA31 & S29); foundation to build upon (PA78); fundamental to learning and education (PB81);

(9) personal development - it plays a major role because without it a student cannot develop to their fullest, it gives them an understanding of more things & you have to be able to read & write! (PA2); to make students more aware of themselves, others and their surrounding environment (PB56);

(10) knowledge - it is vital, it is a part of every aspect of education and is a basis for extending one's knowledge (S51); to expand the knowledge of those who may not have experienced it before (S44);
(11) a means - used as a tool to pass on information & teaching methods (PA61); I think it's very important in learning and education because it will greatly help the way education is delivered (PB77)

(ii) Mapping of concept clusters and categories of description

The process followed that as for the data from Q 1. Phenomenographically the 9 categories of description of the manner in which the role of literacy as a phenomenon is conceived (Tab. 2, column 2) can be shown in an outcome space as a set of logically related categories (Fig. 2). As there are 5 categories of description in common with the Q 1 categories Figure 1 was used as a basis for the outcome space for Q 2. Placement of the other categories required a further analysis of the responses contained in groupings within the categories. For example, the *process / medium / link* and *delivery / method / tool* pools of data statements contained in category 11 indicate reference to concepts in the *foundation* and *personal development* categories, so on the map category 11 can be placed between these two categories in the outcome space.

From the Outcome Space (Fig. 2) displaying categories of description the responses to Q 2. *What do you think the role of literacy is in learning and education?* are shown as having relationships at the broadest level as (c) communication through expressing knowledge , (d) understanding of language and English as language (learning of reading & writing skills focus) and (e) development of reading & writing skills are considered essential for personal and life purposes.

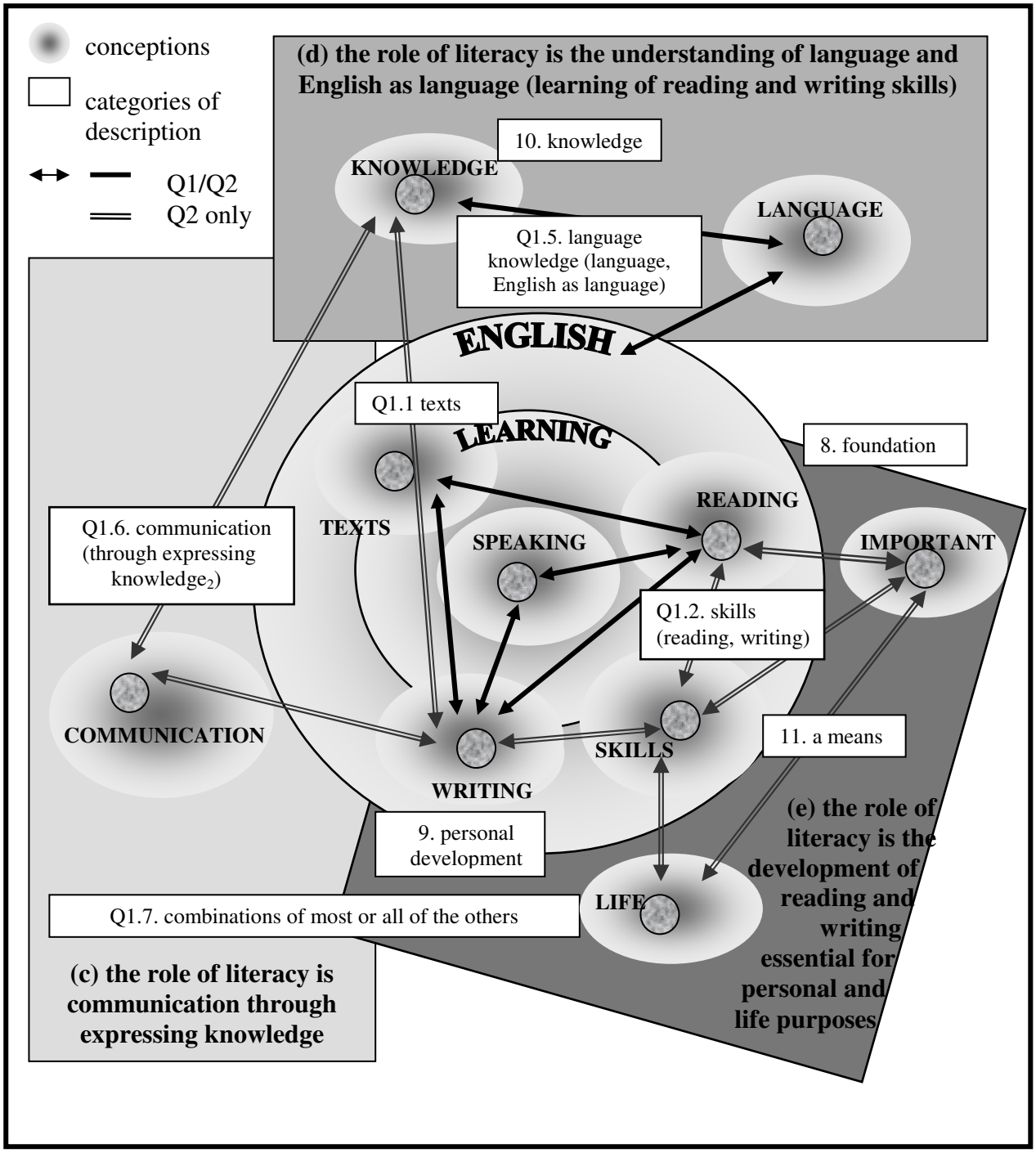

Figure 2. Question 2. The role of literacy is (c) communication through understanding of knowledge, (d) understanding of language and English as language (learning of reading and writing skills) and (e) development of reading and writing skills (essential for personal and life purposes)
Note: Subscript$_2$ Q2 only

Stage (3) Comparison of the Outcome Spaces from each process and their integration into a single Outcome Space.

The concepts and categories of descriptions identified from Q 1 and Q 2 data were compared and having 5 in common were then mapped as a combined outcome space (Fig. 3). Categories of description pertinent only to Q 1 are 3. *skills & texts*

(reading, writing, speaking, text) and 4. *subject English.* Categories of description given in response to Q 2 which were not given in response to Q 1 are 8. *foundation,* 9. *personal development*, 10. *knowledge,* and 11. *a means.*

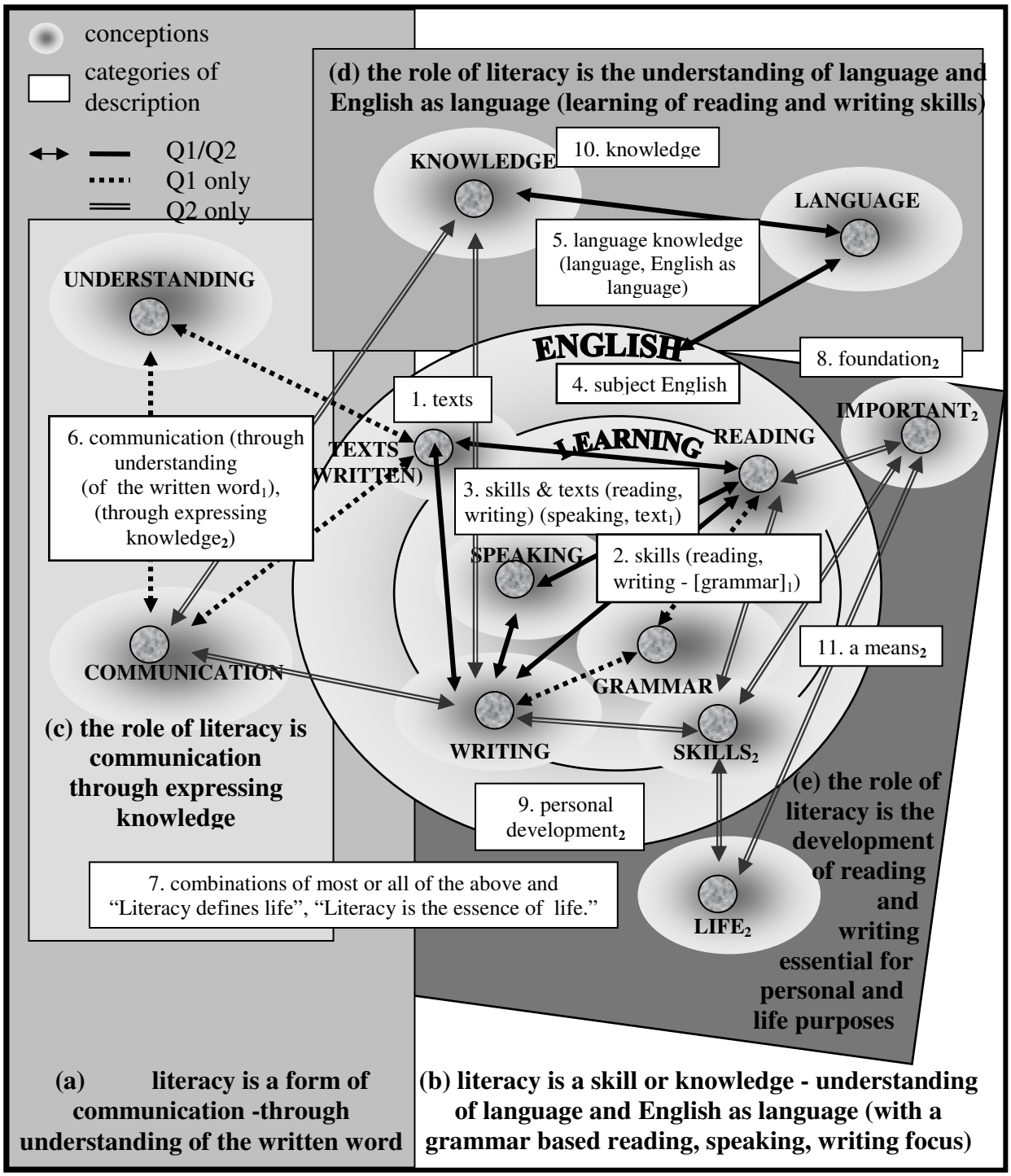

Figure 3. Outcome Space - Combined mapping of Question 1 and Question 2 categories of description.
Note: Subscript$_1$ Q1 only; Subscript$_2$ Q2 only

From this integrated figure a number of factors can be realized. The responses to Q 1: *What do you think the term literacy defines?* are: (a) a form of communication - through understanding of the written word, and (b) as a skill or knowledge -

understanding of language and English as language (with a grammar based reading, speaking, writing focus) all with a basis in written text. When overlaid with the responses to Q 2: *What do you think the role of literacy is in learning and education?* the focus in (a) on communication in understanding the written text becomes a focus in (c) on communication through expressing knowledge. That is *literacy* is conceived as language based but its role is knowledge based. This is a reasonable response given the context in the latter question of *learning and education.*

In (b) and (d), *literacy* and its role in learning and education, the skills of reading, speaking, and writing are conceived of as the basis of language (and English when spoken of in terms of a language) with the extension of the development of reading & writing skills being considered essential for personal and life purposes (e) indicating that learning and education are being conceived of in life-long learning and individual pursuits. *Literacy,* seen by the respondents as *reading and writing* skills which are focused on *grammar* in Q 1 (b) are in Q 2, in line with the above responses, focused on (d) *learning* and (e) *life* skills.

The participants in this study expressed conceptions of literacy that centred on conventional written texts and their role in: communicating and understanding, language knowledge, reading and writing skills, and personal development and life skills.

The results of phenomenographic study present the variation in experience of a particular phenomenon for a selected group which reflects the variation within that population (Åkerlind, 2005, p. 323). Due to the nature of phenomenography, the population of the study is chosen for its heterogeneity in experiencing the phenomenon and "the range of ways of experiencing constituted in relation to a particular group should be common to other groups with a similar spread of characteristics" (Åkerlind, 2002, p. 12). The findings from this study have not been tested for this generalisation by repeating the study with the following year's cohort but discussion with experienced staff in the area suggest that it accords with their experience. Phenomenographic research is not "a search for the 'right' interpretation, but for an interpretation that is defensible, in a context where the researcher is selecting from a range of possible interpretations" (Åkerlind, 2002, p. 13). Ference Marton (1986), one of the founders of phenomenography, states that "the finding of the categories of description is a form of discovery, and discoveries do not have to be replicable" (p. 35) but that other aspects of the process must have some replicability if the outcomes are to be useful to others. As such there are common means of pursuing validity and reliability although none are prescribed and all are debated (Cope, 2004).

As the data was analysed by the Chief Investigator a method of "communicative validity" (Åkerlind, 2005, p. 330) was used in checking the categorisation of data by having a colleague from the "intended audience for the findings" (p. 330) sort a random selection of utterances into the categories of description. The colleague is not involved in the study but has a tertiary teaching and learning background and an interest in literacy. This was also a check on inter-rater or interjudge reliability (Cope, 2004, p. 9) of the coding of the data by the researcher, There was a high level of agreement which affirmed that the categories of description did communicate the conceptions grouped within them and that the sorting is replicable. A second common form of reliability, a "dialogic reliability check" (Åkerlind, 2005, p. 331), was also present through on going discussions with colleagues of the categories of description and the forming of the outcome space.

A second form of validity for phenomenographic research is "pragmatic validity" (Åkerlind, 2002, p. 14) which he defines as "the extent to which the research

outcomes are seen as useful (Kvale, 1996; Sandberg, 1994) and the extent to which they are meaningful to their intended audience (Uljens, 1996)". Informal discussion with colleagues indicates that the outcome of this study is useful and meaningful but awaits a wider dissemination and discussion following publication.

Discussion

In this 2006 study, 87% of the cohort of students surveyed completed secondary school in 2005 or prior to this under an English syllabus which had a *critical literacy* framework (1994). Those students who completed year 12 in 2004 or 2005 would also have been taught through the *English Senior Syllabus* (Queensland Board of Secondary School Studies, 2002) in Year 11 and a small percentage may have taken *English Extension (Literature) Senior* (QSA, 2003) course in Year 12. A search for key concepts in each of the English syllabus documents using a data mining software tool – Leximancer (Leximancer, n.d.) explicitly links the term *literacy* with a number of words commonly associated with *critical literacy*. Among these are text/texts/textual, discourse, places (QSA, 2005, *Yrs 1 to 10*); cultural, knowledge, social, meanings, purpose, constructed (*Yr 11)*; and practices (*Yr 12).*

As in the students' responses to the survey in this study, and thus their experiences, texts are still central to *literacy*, although the emphasis on written texts encompasses multimodal text formats and other forms where personal expression is paramount. However, the demonstrated focus in the curriculum documents is on *literacy* as "a social practice … seen as the flexible and sustainable mastery of a repertoire of practices with texts of, and produced in, traditional and new communication technologies" (Luke & Freebody, 2000 as cited in QSA, 2002, p. 2).

Although Queensland students entering tertiary studies having attended school from 1994 onwards have had a complete education under critical literacy teaching practices, the findings presented indicate that it cannot be assumed that their experience and understanding of critical literacy is the same as that understood by curriculum educators which would be founded on the tenets of critical literacy discussed in the introduction to this paper.

This phenomenographic study showed current student understandings of literacy being: as a means of communicating and understanding, as a basis of language knowledge, and as necessary for personal development and achieving life skills. For academic staff this then provides a shared foundation as a starting point for discussions of the *ideological model* of literacy, that is of *critical literacy* which is not present in beginning pre-service student teachers' understandings. Attaining this comprehensive understanding of the critical aspect of literacy is fundamental to being literate (Freire, 1970) in today's society and essential for teachers of English (National Curriculum Board, 2009; Qualifications and Curriculum Authority, 2011; Queensland Studies Authority, 2005).

This study has not explored why students had not formed an understanding of critical literacy even though it has framed secondary English since 1994 and even more explicitly since 2002. It may indeed be a *Catch-22* situation where teacher training assumes a comprehensive understanding by its graduates who then perpetuate the 3Rs of literacy themselves as teachers. This simplistic suggestion does disservice to higher education programs and secondary school teachers but may serve as a stimulus for further research on the subject.

How students aim to develop their critical literacy understanding and skills during their higher education study is not included in this paper as it is reported elsewhere (Penn-Edwards, 2010a), however it generally tended to be a rather naïve idea of gaining competency by osmotic assimilation (through reading, assignment work, using a dictionary) requiring little organised planning or effort on their behalf.

There is no doubt that higher education institutions educate their pre-service teaching students using a critical literacy framework but the findings of this study indicate that somewhere there is a breakdown in communicating this as a fundamental underpinning of the concept of *literacy.*

Conclusion

The findings presented confirm the author's personal beliefs that beginning students have a limited understanding of *literacy* and that it is imperative to provide a foundation for effective planning to develop their comprehension of *critical literacy* considered necessary for teachers in Australia.

The use of a phenomenographic process of analysis is shown to be effective in establishing a comprehensive array of meanings and their relationships offering a variety of perceptions and understandings from different perspectives. It has a clear pedagogical use as once students' conceptions are mapped higher education academic staff can focus on those that are not fitting and can hold appropriate discussions in their teaching of English discipline courses.

The phenomenographical study described here could then be repeated towards the end of the students' educational program of study to show their development of conceptual understandings. Such a confirmation of students' comprehensive understanding of critical literacy extends beyond the standardised testing of personal literacy skills as required by Masters' (2009) recommendations and can only add to an institution's demonstration that their students have met this condition of teacher registration.

References

Åkerlind, G. S. (2002, November). *Principles and practice in phenomenographic research*. Paper presented at the international symposium on Current Issues in Phenomenography, Canberra, ACT, Australia,

Åkerlind, G. S. (2005). Variation and commonality in phenomenographic research methods. *Higher Education Research and Development*, *24*(4), 321-334.

Bowden, J. A. (2000a). Experience of phenomenographic research: A personal account. In J. A. Bowden & E. Walsh (Eds.), *Phenomenography* (pp. 47-61). Melbourne: RMIT University Press.

Bowden, J. A. (2000b). The nature of phenomenographic research. In J. A. Bowden & E. Walsh (Eds.), *Phenomenography* (pp. 1-18). Melbourne: RMIT University Press.

Department for Education, UK. (2009). *Summary of local authority (LA) and school targets 2011.* Retrieved April 18, 2011, from http://www.nationalstrategies.standards.dcsf.gov.uk/node/246491

Department of Education, Employment and Workplace Relations, Australian Government. (2011). *National literacy and numeracy week* 2011. Retrieved

April 12, 2011, from http://www.deewr.gov.au/Schooling/Programs/NationalLiteracyandNumeracyWeek/Pages/default.aspx

Department of Education, Tasmania, School Education Division. (2009). *Literacy and English.* Retrieved April 12, 2011, from http://www.education.tas.gov.au/curriculum/standards/english/english/teachers/liteng

Ebenezer, J. V., & Fraser, D. M. (2001). First year chemical engineering students' conceptions of energy in solution processes: Phenomenographic categories for common knowledge construction. *Science Education*, *85*(5), 509-535.

Education Development Centre. (2000). Introduction: What is literacy? *Mosaic: Literacy - Tools for Understanding and Action*, 2(2), 2.

Freebody, P. (2007). *Literacy education in school: Research perspectives from the past, for the future*. Camberwell, Victoria: Australian Council for Educational Research.

Freire, P. (2004). *Pedagogy of the oppressed*. New York: Continuum. (Original work published 1970).

Hamilton, M. (2000). Expanding the new literacy studies. In D. Barton, M. Hamilton, & R. Ivanič. (Eds.), *Situated literacies* (pp. 16 – 34). London: Routledge.

Krause, K., Hartley, R., James, R., & McInnis, C. (2005). *The first year experience in Australian universities: Findings from a decade of national studies*. Canberra, ACT: Department of Education, Science and Training, Australian Government.

Lankshear, C., & Knobel, M. (1998). *Critical literacy and new technologies*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA. (ERIC Document Reproduction Service No. ED444169)

Leximancer. (n.d.). *Leximancer: From words to meaning to insight*. Retrieved April 18, 2011, from http://www.leximancer.com/

Loughland, T., Reid, A., & Petocz, P. (2002). Young people's conceptions of environment: A phenomenographic analysis. *Environmental Education Research*, *8*(2), 187-197.

Lyle, K. S., & Robinson, W. R. (2002). A phenomenographic study: First year chemical engineering students' conceptions of energy in dissolution processes. *Journal of Chemical Education*, *79*(10), 1189.

Masters, G. N. (2009). *Shared challenge: Improving literacy, numeracy and science learning in Queensland schools*. Camberwell, Victoria: Australian Council for Educational Research.

Marton F. (1986). Phenomenography—a research approach to investigating different understandings of reality, *Journal of Thought*, *21*(3), 28–49.

Marton, F. (1994a). On the structure of awareness. In J. A. Bowden & E. Walsh (Eds.), *Phenomenographic research: Variations in method* (pp. 89-100). Melbourne, Victoria: RMIT.

Marton, F. (1994b). Phenomenography. In T. Husén & T. N. Postlethwaite (Eds.) *The international encyclopedia of education*: Vol. 8. (2nd ed., pp. 4424 – 4429). Oxford: Pergamon.

Marton, F., & Pong, W. Y. (2005). On the unit of description in phenomenography. *Higher Education Research and Development*, *24*(4), 335-348.

Milton, M., Rohl, M., & House, H. (2007). Secondary beginning teachers' preparedness to teach literacy and numeracy: A survey. *Australian Journal of Teacher Education, 32*(2).

National Curriculum Board. (2009). *The shape of the Australian curriculum*. ACT: Australian Government.

National Institute for Literacy. (2007). *What content-area teachers should know about adolescent literacy.* Jessup, MD: EdPubs.

Peck, C., & Sears, A. (2005). Uncharted territory: Mapping students' conceptions of ethnic diversity. *Canadian Ethnic Studies Journal, 37*(1), 101-120.

Penn-Edwards, S. (2010a). Computer aided phenomenography: The role of Leximancer computer software in phenomenographic investigation. *The Qualitative Report, 15*(2), 252-267.

Penn-Edwards, S. (2010b). The competencies of an English teacher: Beginning student teachers' perceptions. *Australian Journal of Teacher Education*, *35*(2), 49-66.

Qualifications and Curriculum Authority. (2011). *National Curriculum. English key stage 4*. Retrieved April 12, 2011, from http://curriculum.qcda.gov.uk/key-stages-3-and-4/subjects/key-stage-4/english/programme-of-study/index.aspx?tab=2

Queensland Board of Secondary School Studies. (2002). *English senior syllabus*. Brisbane, QLD: Author.

Queensland Department of Education. (1994). *English in years 1 to 10. A guide to analysing texts in English*. Brisbane, QLD: Author.

Queensland Studies Authority. (2003). *English extension (literature) senior*. Brisbane, QLD: Author

Queensland Studies Authority. (2005). *Years 1 to 10 English syllabus*. Brisbane, QLD: Author.

Queensland Studies Authority. (2010). *Literacy senior syllabus*. Brisbane, QLD: Author.

Queensland Teachers' Union. (2009). *Queensland Teachers' Union response to the Masters report recommendations*. Retrieved April 12, 2011, from http://www.qtu.asn.au/qtu_response_to_masters_report_2009.pdf

Rose, E., Heron, J. L., & Sofat, I. (2005). Student understandings of information systems design, learning and teaching: A phenomenography approach. *Journal of Information Systems Education, 16*(2), 183-196.

Street, B. V. (1984). *Literacy in theory and practice*. Cambridge: Cambridge University Press.

Street, B. V. (2001). Introduction. In B. V. Street (Ed.), *Literacy and development: Ethnographic perspectives* (pp. 1-16). London: Routledge.

Svensson, L. (1997). Theoretical foundations of phenomenography. *Higher Education Research and Development,* 16(2), 159-172.

Tang, T., & Williams, J.B. (2000). *Conceptualisation of misunderstanding and understanding – a phenomenographic study of students' conceptions of allocative efficiency in economics*. Retrieved April 12, 2011, from http://www.bus.qut.edu.au/faculty/schools/economics/documents/discussionPapers/2000/DP%20No%2080.pdf

Trigwell, K. (2000). A phenomenographic interview on phenomenography. In J. A. Bowden and E. Walsh (Eds.) *Phenomenography* (pp. 62- 82). Melbourne, Victoria: RMIT Publishing.

United Nations Educational, Scientific and Cultural Organization. (2011). *Literacy portal: Why is literacy important*. Retrieved April 12, 2011, from http://portal.unesco.org/education/en/ev.php-URL_ID=54369&URL_DO=DO_TOPIC&URL_SECTION=201.html

Williams, D.A., & Wavell, C. (2006). *Information literacy in the classroom: Secondary school teachers' conceptions (Research Report 15*). Aberdeen: Aberdeen Business School. The Robert Gordon University.