

A Case Study of Reflections on the Implementation of Group Projects
from the Perspective of Professors at Lakehead University Matthew J.

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Abstract

Cooperative learning practices in higher education carry the potential to increase student achievement and to develop social and team work skills valued highly by employers. However, despite an abundance of literature documenting such benefits, students and professors continue to report disappointment and frustration with group work, a common form of cooperative learning. These problems are not only distressing and uncomfortable, they also prevent the pedagogical potential of cooperative learning from being realized. This phenomenological inquiry aims to uncover the essential elements of professors' practice related to group work project implementation in an effort to improve group work experiences for students. Through a focus group interview, professors' experiences were collected, analyzed, and interpreted through a theoretical lens based on a previously published framework for group work implementation.

Dedication

The intellectual effort of this thesis is dedicated to my eldest brother, Richard St. John Griffin. Born in Newfoundland in 1962, Richard was denied the miracle of curiosity and the thrill of its pursuit because of severe mental retardation. He died in 1985. This is for you, Rich.

Acknowledgement

I am sure that most graduate students approach the daunting task of their first research project cognizant of the abundant ‘horror stories’ of unapproachable, unavailable supervisors and of theses derailed by irreconcilable abstraction. While my research effort did, at times, become mired in abstraction, my supervisor, Dr. Brent Cuthbertson, was always enthusiastic about rolling up his pant legs and wading in to help me push the old mule out once more. And, actually, those meetings were a lot of fun. For helping me in those times, and for inspiring me to become comfortable with esoteric thought, I thank you, Dr. C.

I also wish to thank my committee member, Dr. Joan Chambers, for her help in reviewing my thesis and for the introduction to research methods she provided as my professor. You helped me understand how a theoretical lens works.

Finally, a special thanks to all of my research participants for their contributions. Your participation helped me to complete my degree. Thank you!

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from the Perspective of Professors at Lakehead University

Chapter One: Introduction

My recollections of student life as an undergraduate engineer in the early 1990's are of an academic culture focused on lecture-style delivery and individualistic learning. Generally, classroom discussions were neither encouraged, nor sustained, and the overall climate was competitive, based on a belief that worthy engineering graduates were those who could 'survive' the rigours of independent, isolated, and competitive study. Twenty years later, when I returned to university as an undergraduate teacher candidate, the landscape was unrecognizable to me; a revolution had happened in my absence. Lectures were passé, replaced instead with various forms of student-centred learning such as peer-led teaching, group discussions, and both formal and informal group work. In many courses, the professor assumed the position of a peer, facilitating and encouraging discussions with an active class rather than simply delivering 'expert knowledge' to a relatively passive audience. The shift towards student-centred learning also brought new, alternative forms of assessment including peer, self, contract, and 'feedback only' types.

However, the greatest change I noticed in program delivery was the prominence of formal group work, especially the kind Oakley, Felder, Brent, and Elhadj (2004) label as 'student project teams' (SPTs), where students work together, both in and outside of regular class time, and over several weeks, to complete specific academic products such as presentations or group reports. Usually, such SPTs were used as part of a larger peer-led teaching practice. The products developed by each group, when combined over the semester, were usually intended to cover the course curriculum. Rather than supplement a foundation of lectures, the group presentations became the primary vehicle for course delivery, often displacing lectures altogether. In these

cases, the professor, previously an elevated and separated figure in the class, had instead joined a “community-of-learners” (Boud, Cohen, & Sampson, 1999; Wang, 2007).

On the surface, these seem like progressive changes. After all, lecture-style delivery upholds an archaic view of knowledge as a concrete, objective, transferable entity, possessed by the knowledgeable and to be delivered to the passively ignorant (Freire, 2005; Wells, Chang, & Maher, 1990). While lectures certainly can be conducted in ways which engage students and promote critical thinking and participation (Brookfield & Preskill, 2005), Colbeck reports they tend to be most effective “if the learning goal is immediate factual recall” (as cited in Anstrom, 2010, p. 148). Others are more dismissive of lectures. Brookfield and Preskill (2005) remark that lectures provide an environment for course content to be “aired in the presence of students” (p. xiv), while Smith, Sheppard, Johnson, and Johnson (2005) describe lectures in this way: “the information passes from the notes of the professor to the notes of the students without passing through the mind of either one” (p. 2). This view is supported by Johnson, Johnson, and Smith (1991) who report on factors detrimental to the effectiveness of lectures, including: students’ pre-occupations and emotional states, lack of attention, disinterest, feelings of isolation, and “entertaining and clear lectures that students think they understand but actually misrepresent the complexity of the material” (p. 90). The move towards student-centred and cooperative learning is, by contrast, reported to offer a wealth of benefits for students in higher education, including:

... higher achievement, greater long-term retention of what is learned, more frequent use of higher-level reasoning (critical thinking) and meta-cognitive thought, more accurate and creative problem-solving, more willingness to take on difficult tasks and persist (despite difficulties) in working toward goal accomplishment, more intrinsic motivation, transfer of learning from one situation to another, and greater time on task. (Johnson, Johnson, & Smith, 2007, p. 19)

In addition to these academically-oriented benefits, the social skills necessary for cooperative learning have been shown to promote tolerance and to support goals of social justice (Bouas, 1996; Slavin, 1991; Smith & MacGregor, 2000) and to help prepare students to be active and responsible citizens within a democracy (Johnson et al., 2007; Ültanır, 2012). As students become more active through cooperative learning, they develop a sense of responsibility for their own learning, develop skills of meta-cognition, and begin to think of knowledge as a pursuit rather than a static commodity. Cooperative learning offers a practical way to implement John Dewey's ideas of education as an "ever-increasing capacity for learning and an appreciation of and sensitivity to learning undertaken by others" (Brookfield & Preskill, 2005, p. 3), and as a natural part of life rather than mere preparation for it (Moore, 2005; Ültanır, 2012).

With such promising potential, it's easy to see why group work has become a central and expected part of undergraduate study. And yet, my own experiences with them seem to fall far short of these ideals. The academic promises reported by Johnson et al. (2007) of higher achievement, improved retention, and the development of critical thinking and meta-cognition, never seemed to be a part of my group experiences; in fact, the opposite was often true. I often failed to see how the group aspect of the projects had improved my academic experience; it seemed only to add stress, complexity, and to obstruct my ability to complete a project. Often, I felt as if the group work experience had simultaneously reduced my mark and increased my workload. Where group work was intended to develop social skills, I was often left feeling exasperated and frustrated with fellow group members and, in the worst cases, with strained or damaged relationships. As I progressed through my second degree, I did what many of my classmates did: I tolerated group work, and accepted it as a painful reality of the modern undergraduate experience. This seems a shame, because the promise of group work to enhance and make educational experiences more engaging seems reasonable.

My experiences are not unique. In preparation for this thesis, I asked many of my fellow

graduate students about their experiences with group work during undergraduate study; their responses perfectly matched themes identified in research of student perceptions of group work by Bourner, Hughes, and Bourner (2001) and Marks and O'Connor (2013), for example, difficulties of negotiating in the group, difficulties working with certain people, of working with unmotivated people, unequal workloads, the inefficient and time-consuming nature of group assignments, and having to depend on others. In addition, many of my classmates shared my rather pessimistic view of group work. In my anecdotal assessment of peer experiences, the most commonly-reported themes are: (a) frustrations surrounding unequal sharing of work between group members; (b) dissatisfaction with group assessment practices, particularly that some group members had been 'dragged down' by the group, while others in the group had benefited unfairly; (c) difficulties working with, depending upon, and resolving problems between group members; and (d) difficulties related to differences in standards of quality between group members. A curious aspect of these reported experiences is how similar they are across research studies, domains and levels of education, and contexts. It seems as if group work, everywhere, is something many undergraduate students continue to struggle with. However, from these early and informal conversations, it was apparent that most significant problems with group work were people-related, and not necessarily related to the cooperative learning aspects of group work. This seems to suggest that the academic potential of group work could be realized if the social problems were to be addressed.

And yet, can the students themselves be the source of the problems when the problems are the same and the students change? As I began to research the topic of group work and to examine these commonly-reported problems, a conspicuous absence emerged: the role of the professor. I began to wonder if many of the problems reported by students could be linked to some aspect of how group work was implemented by professors, or to some other deficiency or omission within professors' typical practice as it related to cooperative learning. What is the role of the professor

when assigning group work? And what influence and impact does this role have in how group work unfolds, and on the experiences of the students who engage in it?

Within educational research, the commonly observed gap between theory and practice is perfectly exemplified by the field of cooperative education at the university level. In a review of the literature, Davies (2009) reports an abundance of benefits and specific types of learning associated with group work, a common form of cooperative education in universities. These include ‘deep’, ‘active’ and ‘experiential’, and ‘problem-based’ learning; its promotion of knowledge construction; its use as authentic career training or simulation; the efficiency it affords professors when faced with growing enrollment; and its ability to develop “social membership in a mass education environment” (p. 564). And yet, despite an abundance of such literature documenting its benefits to learning, its potential to develop students into team-oriented employees (Johnson & Johnson, 1994; Serrano & Pons, 2007), and its applicability to numerous subject domains and learning contexts, students and professors continue to report disappointment and frustration with group work (Druskat & Kayes, 2000). These problems are not only distressing and uncomfortable, they also prevent the pedagogical potential of cooperative learning from being realized. Colbeck, Campbell, and Bjorklund (2000) report that “the conditions for group learning in higher education settings rarely meet the standards advocated by cooperative learning scholars” (p. 61), and point to faculty inexperience with cooperative learning as a weakness in implementation. Methods to improve the effectiveness of group work in university settings are greatly needed.

Available Studies

Existing studies related to cooperative learning fall into two broad categories: those which offer theoretical and historical perspectives of cooperation as a human phenomenon, and those which offer specific analyses of cooperation within educational contexts. The origins of cooperative learning, as contemporary educational practice, can be traced through at least three

different theoretical traditions. Constructivist theories of learning developed by John Dewey, Jean Piaget, and Lev Vygotsky helped to explain how learning occurs at both individual and societal levels (Britton, 1990; Johnson & Johnson, 1994; Ültanır, 2012). The efforts of social justice pioneer Gordon Allport, who developed Intergroup Contact Theory in an attempt to reduce inter-racial tension, helped to refine techniques of communication within and between groups (Anstrom, 2010; Hurley, Allen, & Boykin, 2009; Slavin, 1991). Gestalt theorists Kurt Kaffka and Kurt Lewin helped to categorize the types of relationships that exist between members of a working group, the impact those types have on group outputs, and how the relationships affect the characteristics of the group as a whole (Harnack, Fest, & Jones, 1977; Johnson & Johnson, 1994). Morton Deutsch, continuing in the gestalt tradition, studied and compared cooperative, competitive, and individualistic behaviour and began a lineage of contemporary researchers which include the prominent research team of David and Roger Johnson and other researchers who developed familiar cooperative teaching strategies taught in teacher education programs today (Harnack et al., 1977; Hurley et al., 2009; Sharan, 1990).

On the whole, the literature related to cooperative learning is vast. Johnson and Johnson (1994) report, “since 1898, over 550 experimental and 100 correlational research studies have been conducted on cooperative, competitive, and individualistic efforts” (p. 41). Slavin (1996) similarly reports that since the 1970’s, “hundreds of studies have compared cooperative learning to various control methods on a broad range of measures” (p. 43). In an effort to provide structure to the literature, University of Minnesota researchers Roger and David Johnson conducted a comprehensive set of eight meta-analyses covering the available research, each targeting a specific aspect of cooperative learning (Serrano & Pons, 2007). Of the set, the sixth meta-analysis is perhaps the most relevant to the current research as it “compared the effects of cooperative learning for conflict resolution and demonstrated the importance of peer mediation” (p. 216).

Johnson and Johnson (1994) provide an excellent overview of research related to

cooperative learning and divide studies into two broad categories: scientific and professional. The robust internal validity and range of dependent variables examined within scientific studies have contributed to wide acceptance of cooperative learning as an effective teaching strategy. Johnson and Johnson (1994) also acknowledge, however, that results achieved in laboratory conditions often failed to reproduce in classroom conditions. The remaining professional studies are classified as quasi-experimental, and generally offer improved external validity but often indeterminate causality due to inconsistent control in research design. The majority of professional studies have focused on correlations between cooperative learning and student achievement, while less have been devoted to comparisons between types of cooperative learning (Slavin, 1996), analyses into mechanisms of cooperative education dysfunction, and general effects on students.

Deficiencies

In general, the majority of research into cooperative learning has focused on primary and secondary education, informal cooperative learning (where students work in groups for short periods, usually within one classroom period), and on the effects of cooperative learning on student achievement (Anstrom, 2010; George, 1999; Slavin, 1996). The majority of studies at the university level tend to focus on student perceptions of cooperative learning within specific domains such as accounting, business, or computer science (Barfield, 2003; Brown & McIlroy, 2011; Ford & Morice, 2003; Garvin, 1995) and the analysis of assessment practices for group projects (Almond, 2009; Boud et al., 1999; Bushell, 2006; Frykedal & Chiriac, 2011; Hanson & Sinclair, 2008; Lejk & Wyvill, 1997, 2001). Fewer studies address problem behaviour within groups (Kerr & Brunn, 1981; Oakley, 2002; Shepperd, 1993), cooperative education training within teacher education programs (Bouas, 1996), and links between cooperative learning and preparation of students for the workforce (Berge, 1998; Colbeck et al., 2000).

While some studies have investigated professor perceptions of group work (Anstrom, 2010; Hanson & Sinclair, 2008), very few have examined the role they play in making it

successful for their students. As Webb (1997) reports, “placing students in groups does not automatically ensure that groups will function efficiently, smoothly, and productively” (p. 205). Yet, knowing how to create optimal conditions for cooperative learning can be challenging, despite a wealth of available literature. Oakley et al. (2004) suggest that the abundance can cause confusion for professors:

An instructor attempting to find a concise guide on how to work with teams in the classroom may find it difficult to gain a toehold in the literature ... an instructor is left without a clear picture of where to start and how to prioritize the formidable array of suggestions. (p. 9)

Significance

This current research is important for several reasons. First, it helps professors who invest in cooperative education to improve their practice by providing them with concrete strategies for planning and implementing group work. The research calls upon professors to become more actively involved in the planning, implementation, and management of group work, and this change may represent a significant shift in the way things have been done in the past. Second, this current research offers professors an efficient route through a complex literature, and avails them of strategies which have been ‘field-tested’ and adjusted according to student feedback. Third, it will potentially improve the group work experiences of students who will benefit from improved, structured implementation. Finally, by allowing for more functional implementation with fewer problems, this study contributes to the realization of the substantial educational and social potential of group work. It should be mentioned, however, that the iterative nature of change to teaching practice requires professors to be diligent and resilient; it is rarely a straightforward process, and one which must be tailored to individual professors, subjects, and students.

This current research is directed towards post-secondary instructors and professors who

employ group work, and to the students who will benefit from their professors' improved practice. Considering how widely such strategies are being implemented across subject areas as diverse as education, medicine, engineering, and business (Johnson et al., 2007), the research has the potential to help many. Ultimately, improved student experiences translate into improvements in education.

Purpose and Research Questions

This research used the research findings and recommendations for group work implementation presented by Oakley et al., (2004) as a theoretical lens to interpret professors' experiences with group work. Although not formally developed as a working model, they refer to their publication as an "instructor's guide to managing team assignments" (p. 10). For the purpose of this research, the research by Oakley et al. (2004) is labelled as the *Oakley Framework* (O.F.) (Figure 1). Additionally, their research offers a rare perspective into the highly influential role of professors in the successful implementation of group work projects; rather than merely problematizing group work, the O.F. shows how judicious involvement by professors can empower students to self-regulate within groups, solve typical problems, and become active members of their student project teams.

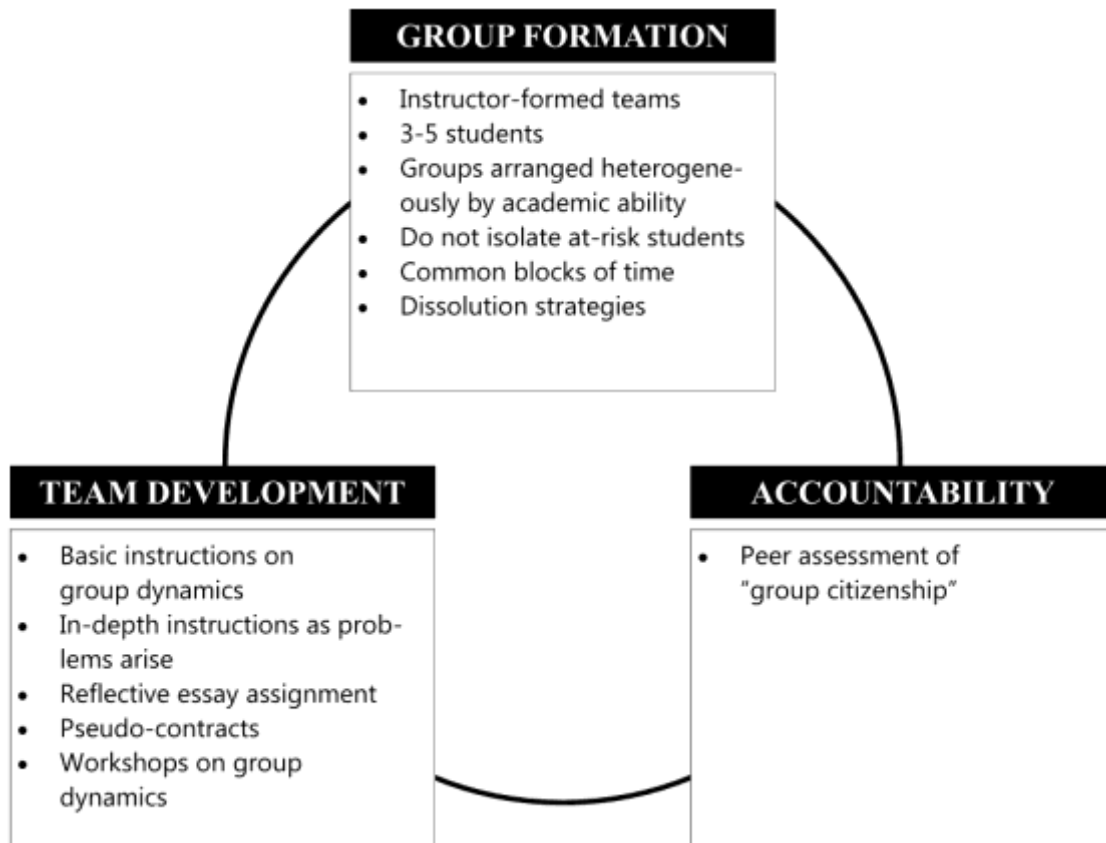


Figure 1. The Oakley Framework. Based on Oakley et al. (2004).

There were three broad aims of the research: (a) to collect and analyze the opinions of professors experienced with group work projects; (b) to introduce the O.F. to professors to understand their perspectives and opinions on the Framework's central theme of enhanced professor involvement; and (c) through achieving the first two goals, to improve the social and academic group work experiences for undergraduate students, so that the cooperative learning potential of group work is better realized.

Research Questions.

The research was guided by the following questions:

1. What are professors' experiences with implementing undergraduate group work?

2. What contexts exist to influence, or shape, professors' experiences with group work?
3. How do the identified contexts shape the experiences?
4. With respect to their experiences of implementing group work, what are professors' general impressions of the O.F.? How does the O.F. compare to professors' typical implementations of group work?

This research was conducted as an empirical phenomenological inquiry. Data was gathered using a focus-group interview with four professors, and analyzed using thematic content analysis techniques. In addition to the interview transcripts, individual prepared responses to questions were collected from participants prior to the interview and analyzed. No individual interviews took place with participants.

Participants and Site

The participants in the study were a group of four professors from Lakehead University who reported regular use of group work in their programming. The professors were selected according to two criteria: (a) that they had reported experiencing problems with the implementation of group work; and (b) that they expressed an interest in improving their practice with respect to group work implementation. Several weeks prior to being interviewed, the participants were given an opportunity to review and reflect upon the O.F. by preparing written responses to select interview questions. A single focus group interview was conducted on the campus of Lakehead University in September, 2013.

Ethics Approval

This research project was approved by the Lakehead University Research Ethics Board. Each participant signed and returned a consent form, which outlined the potential risks associated with the research, advised them that their participation was voluntary, and that they were not obliged to answer any questions they felt were objectionable or which made them feel

uncomfortable. Although it was not possible to provide participants with a guarantee of anonymity due to the nature of focus groups, they were informed that their identify would be masked in the research products and were asked to respect each other's privacy following the interview.

Research data (digital audio, and digital forms of interview transcriptions and prepared answers) will be secured in a locked filing cabinet under the supervision of Dr. Brent Cuthbertson, for a period of five years, after which all files will be destroyed. See Appendix I for a copy of Lakehead University Research Ethics Board approval.

Assumptions

The assumptions of this study were:

1. That participants offered truthful and earnest answers to interview questions.
2. That participants recognized themselves as suitable candidates, based on the criteria listed in the recruitment letter I used.
3. That participants would feel free to engage with each other during the focus group, rather than merely answer questions as individuals. I also assumed that, in some cases, the participants would disagree with each other.

Limitations

Certain aspects of every research study limit the interpretation and generalizability of its findings. As Patton (2002) observes, "by their nature, qualitative findings are highly context and case dependent" (p. 563); thus, identifying and outlining the limitations of the current study will establish its context and help readers gauge its suitability to their own research. The main limitations of this study were:

1. Time. The study data was based on a single focus-group interview and the prepared answers provided by three of the four participants.
2. Interview Skill. My skills as a novice interviewer may have limited the quality and

depth of the testimony provided by the participants. In some cases, I may have missed opportunities to delve more deeply into topics, or to encourage participants to elaborate.

3. **Data Quality.** The extent to which the participants were “information rich” (Patton, 2002, p. 40) with respect to the phenomenon of group work was variable.
4. **Lack of Individual Interviews.** Interviews conducted with individual participants could have provided useful background information about the participants, including their motivations for involvement in the research. Such information would have been helpful during data analysis.
5. **Member Checking.** Participants could have been invited to read and verify the transcripts I prepared from the audio recordings of the interview. This would have given them a chance to correct any errors in their testimony made during transcription.

Delimitations

The delimitations of a study make clear what was – and wasn’t – included in the scope of inquiry. This study was delimited by:

1. **Topic.** This study focused on a specific form of cooperative education: undergraduate group work projects which are conducted largely outside of regularly scheduled classes. Other forms of cooperative learning, group work, and target populations were excluded from the study.
2. **Methodology.** This study was conducted as an empirical phenomenological inquiry. As such, I valued and emphasized participants’ descriptions of their experiences with the phenomenon over my own.
3. **Theoretical Lens.** The overall inquiry and data interpretation of this study was guided by the theoretical lens of research by Oakley et al. (2004).
4. **Selectivity.** The participants were chosen through purposeful sampling and therefore

represent a fixed number of voices. With respect to this limitation, it is important to remember that the aim of purposeful sampling is to “permit inquiry into and understanding of a phenomenon *in depth* [original emphasis]” (Patton, 2002, p. 46) rather than to allow for generalizability of research findings.

5. Research Instrument. The topics discussed during this study were directly related to the choice of questions used in the interview and on the questionnaire.

Chapter Two: Literature Review

Despite the wide and increasing use of formal group work in undergraduate settings, it is difficult to establish a definitive theoretical basis to explain its mechanism, or to rationalize its use (Webb, 1997). Many possible, and equally plausible, accounts exist of its development as an educational strategy, and the literature on cooperative learning is one of the largest in education research (Berge, 1998). The comprehensive theoretical overview provided by Slavin (1996) provides structure to an otherwise overwhelming body of literature. It incorporates key figures from the constructivist and gestalt traditions and provides six theoretical perspectives to explain cooperative learning, four of which are applicable to higher education. A different interpretation of cooperative learning's evolution is provided by Johnson and Johnson (2013), who explain cooperative learning as a direct product of gestalt theorists.

Historical Aspects of Cooperation and Cooperative Learning

Cooperation and education enjoy a long history of partnership, one which dates back to earliest historical writings. References to small group learning, group discussion, and learning partners found in Roman-era Jewish education carried the same intent of modern-day cooperative education, and often describe practices remarkably similar to those supported by modern educational theory (Johnson et al., 1991). Sharan (1990) writes that the ancient teachers employed concepts found in constructivist theory when they encouraged their students to “think and rethink, formulate and reformulate their ideas, using what they know, what they think, and what they hear, until they reach some sense of completeness about their own thoughts and understanding” (p. 30). Johnson et al. (1991) present John Amos Comenius, considered the “father of modern education” (Armstrong, 2005, p. 13), whose idea that students could teach one another is remarkably similar to modern peer teaching methods and demonstrates an early understanding of principles now

expressed as elaboration theory. One of the less obvious practical aspects of cooperative education, to develop students into responsible democratic citizens, was the focus of local educational efforts spearheaded by Francis W. Parker in the late 1800's (Smith et al., 2005). Now largely a forgotten figure overshadowed by John Dewey's contributions, Parker was in his time a famous and progressive educator, having published the first significant American work on education, *Talks on Pedagogics*, in 1894. His ideas for educational reform reflected his view of democracy as one of shared responsibility and "a mode of associated living, of conjoint communicated experience" (Schmitt, 2010, p. 111) and also of social justice. To counter a rising trend towards individualism and materialism, factors then seen as contributory towards general urban decline, Parker introduced ideas that emphasized students' interdependency. He was the first to introduce the idea of student presentations, a regular feature of his revolutionary 'morning exercise' (Schmitt, 2010). His pioneering use of cooperative learning strategies "to create a cooperative democratic classroom atmosphere" (Johnson et al., 1991, p. 5) became the basis for the progressive school movement in the United States.

John Dewey's philosophy of education as a democratic institution marks the beginning of the modern era of cooperative learning theory. In his view, education ought to be experience-based (Bouas, 1996), and learning should involve individual cognitive efforts as well as social reinforcement (Moore, 2005; Panitz, 1999). Sharan (1990) describes how many of the elements encapsulated within Dewey's 'project method' resemble those of most modern-era group work assignments, especially its use of cooperative learning groups (Johnson, Johnson, & Smith, 1998; Smith et al., 2005). However, as Johnson and Johnson (2009) observe, many of Dewey's original ideas for student-centred learning disappeared after his death (along with those of Parker) due to the poor-quality teacher training practices of the time. These early developments towards cooperation in education were swept away, ironically, in a shift towards an individualistic, competitive education model (Johnson et al., 1991; Smith et al., 2005). Early studies into

competition and cooperation by European and American researchers in the first decades of the twentieth century culminated in Morton Deutsch's publication of *A Theory of Co-operation and Competition* in 1949, in which he describes three basic states of interdependence between members of a working group, each shaped by competition, cooperation, or individualistic goals (Deutsch, 1949; Johnson & Johnson, 1994).

Theoretical Basis of Cooperative Learning

The origins of cooperative learning as contemporary educational practice can be traced through at least three different theoretical traditions: (a) Constructivism, which explains the role of social interaction in individual knowledge acquisition; (b) the gestalt tradition, which explains how the characteristics of relationships between group members influences group outcomes, and also how groups respond to and behave according to specific goal structures; and (c) Contact Theory, which rationalizes cooperative efforts in terms of social justice aims. Although each of the theoretical traditions explains significant aspects of group work, none seem to adequately explain why group work is used to the extent that it is. For example, while constructivist theory does explain how purposeful and engaging dialogue leads to re-examination of one's interpretation of perception or version of knowledge, it does not rationalize group-based learning as the only way to create such conditions. Similarly, gestalt theorists have exhaustively described group topology and the impact of goal structures, and have created working models for primary and secondary schools based on their theories of conditions for optimal cooperation, but have not explained the impetus of group work. In other words, there are various theories to explain how group work ought to function, and what the benefits of group work are, but none to explain where the phenomenon came from, why it developed as it did, or why it has become so popular so quickly within undergraduate contexts. Thus, group work seems to have emerged as a descriptive, rather than prescriptive, teaching strategy; that is, one supported by theory but not created from theory directly.

Slavin's (1996) theoretical overview of cooperative learning identifies six supporting theoretical perspectives, or groupings of theories. The first of these, motivational perspectives, includes Deutsch's (1949) theory of interdependence, derived from his earlier theories of cooperation and competition. Motivational theories posit that student behaviour in groups is shaped by three possible reward and goal structures states: *positive interdependence*, where group members are acting cooperatively; *negative interdependence*, where group members are competing with each other; or *no interdependence*, where group members are acting individualistically. While motivational theories comprise the largest research base for cooperative learning, empirical evidence in support of goal and reward influence on cooperation is derived mostly from studies at the primary and secondary school level (Slavin, 1996).

The second of Slavin's perspectives, social cohesion, contains theories which posit that group members cooperate because they care about each other, want the group to persist, and that "group identification will lead students to work diligently and increase their learning" (Ravenscroft, Buckless, & Hassall, 1999, p. 165). As Slavin points out, social cohesion theories are essentially motivational, except that external rewards or incentives do not play a role in group activity; membership in, and the persistence of the group provide the motivation. Cooperative learning strategies based on social cohesion theories typically include formalized team-building activities. The examples provided by Slavin are clearly oriented towards primary and secondary grades.

Slavin's third perspective, cognitive elaboration, is the first to offer a cognitive explanation for learning mechanisms within cooperative contexts, and is also the one most suited to university-level group work. This perspective focuses on dialogue between and among group members, a critical concept upon which many other applicable theories are based. Within the cognitive perspectives, Slavin identifies two sub-groups: developmental perspectives which include the theories developed by Lev Vygotsky and Jean Piaget, and other developmentalists; and cognitive

elaboration perspectives which describe how “learning is enhanced when people have to elaborate, explain and defend their meanings to others” (Postholm, 2008, p. 144). Purposeful dialogue is a central facet of Vygotsky’s (1978) theories of social cognition. Although his writings of speech and language are not explicitly oriented towards working groups, they help to explain how language enables interaction between people and also acts as a method of ‘internalizing’ socially-derived meanings as part of independent learning. In this passage from *Mind and Society*, he shows how the individual learning persists, despite the individual’s membership in a group:

An interpersonal process is transformed into an intra-personal one. Every function in the child’s cultural development appears twice: first, on the societal level and later on the individual level; first, between people (interpsychological), and then inside the child (intrapsychological) ... all the higher functions originate as actual relations between human individuals. (Vygotsky, 1978, p. 57)

The social exchange of ideas is the basis for Vygotsky’s (1978) Zone of Proximal Development, described as an “area of potential learning that is influenced or supported by more capable peers” (Anstrom, 2010; Harland, 2003), and of Ryan’s complementary Principle of Multiplicity (Ravenscroft et al., 1999; Ryan, 1997), which states that people perceive similar things in unique ways and that multiple solutions to problems are usually possible. Postholm (2008) identifies strong similarities between the theories of Lev Vygotsky and his contemporary, Mikhail Bakhtin, who believed that “meaning is not created by the individual, but in the interaction between the two interlocutors ... in a dialogic process” (p. 144).

Jean Piaget, whose research focused on the developmental stages of the individual and on how individuals construct knowledge, is also remembered as a constructivist, and whose theories are relevant to group interaction. His concepts of assimilation and accommodation, familiar to educational theorists, are derived from states of disequilibrium, or “sociocognitive conflict”

(Johnson & Johnson, 1994), present during group discussion (Ültanır, 2012), while his concept of de-centring states that “students’ interactions will most likely reflect some degree of public verification and, hence, will have greater objectivity ... than typically will emerge from individual study” (Sharan, 1990, p. 36).

In his discussion of the four main theoretical perspectives, Slavin (1996) observes that the non-cognitive perspectives (motivational and social cohesion) are largely supported by evidence collected in “real classrooms over extended periods” (p. 52), whereas the cognitive perspectives (developmental and cognitive elaboration), although shown to be valid, are based on more restricted evidence, collected “over a short term involving limited content” (Ravenscroft et al., 1999, p. 165).

An alternative to Slavin’s (1996) theoretical overview of cooperative learning is the interpretation presented by Roger and David Johnson, seminal and ubiquitous researchers in the field of cooperative education, and academic descendants of Deutsch. The Johnson brothers extended Deutsch’s (1949) theory of social interdependence to develop their ‘Five Essential Elements’ of successful group function. While it is virtually impossible to find a study into cooperative learning that does not include a reference to the Johnsons, their research is not universally accepted. In an annotated bibliography of works relevant to cooperative learning, Ravenscroft et al. (1999) review *Cooperative Learning: Increasing College Faculty Instructional Productivity* (Johnson et al., 1991) and state, “The book tends to be repetitive and somewhat simplistic about the most difficult aspect of cooperative learning ... the authors tend to assert that the necessary elements of successful cooperative learning emerge easily and quickly” (p. 171).

In their account of the evolution of cooperative learning, Johnson and Johnson (2013) describe a very linear and orderly progression of theoretical development, all within the ‘gestalt’ tradition. Kurt Koffka, founder of the Gestalt school of psychology, introduced the idea of working groups as “dynamic wholes in which the interdependence among members could vary”

(p. 2). His colleague, Kurt Lewin, extended this core concept by stating “a change in the state of any member or subgroup changes the state of any other member or subgroup” (p. 2), and that a group is characterized by the nature of the relationships between group members. In his Social Interdependence Theory (Deutsch, 1949; Johnson & Johnson, 2005), Morton Deutsch, graduate student of Lewin, postulated that three types of interdependence exist between group members: positive interdependence, where group members cooperate in order to achieve success as a group and as individuals (promotive interaction); negative interdependence, where group members compete with each other and where individual success is dependent upon group failure (oppositional interaction); and neutral interdependence, where no interaction occurs (Johnson & Johnson, 2013; Smith et al., 2005). Deutsch defined each type of interdependence as a specific goal structure; thus, a group whose members have a cooperative goal structure will exhibit promotive interaction and cooperative behaviour.

David and Roger Johnson drew on social interdependence theory (Deutsch, 1949) to develop the ‘Five Essential Elements’ of cooperation: positive interdependence, individual accountability, promotive interaction, social skills, and group processing (Johnson et al., 1998). The elements are presented as conditions required for cooperation to exist. Positive interdependence and promotive interaction are described above; individual accountability refers to the ability of each group member to account for their contribution towards the common product; social skills refers to the non-academic skills students need for the smooth functioning of a group, including those for conflict resolution; group processing refers to the ability of the group to reflect upon their own group function and performance. The Five Essential Elements are each highly relevant to group work, and are arguably better suited to university-level students who are generally more capable of reflection and diplomacy than primary and secondary students.

The rationale for employing cooperative learning within schools is not always strictly academic or educational. One of the reasons undergraduate institutions favour group work is for

its capacity to develop social justice values within students, such as tolerance towards differences in race, ethnicity, gender, religion, ableness, and socio-economic status (Johnson et al., 1991; Slavin, 1991). The theory underlying such social justice intentions for cooperative learning is found in Contact Theory, or Intergroup Contact Theory. Although Contact Theory is oriented towards relationships between groups, it is relevant and applicable to the relationships between members within a group, particularly at the university level.

In their history of Contact Theory, Dovidio, Gaertner, and Kawakami (2003) present the ideas of post-World War II sociologists who theorized that “lessened hostility will result from arranging intergroup collaboration” (p. 7) and the ideas of Watson (1947), who wrote “spreading knowledge is useful ... still better are projects ... designed to help people in face-to-face contacts with persons of different race, religion, or background” (Watson, 1947, as cited in Dovidio et al., 2003, p. 6). Similar to the Five Essential Elements presented as necessary conditions for cooperation, Allport (1954) proposed four conditions necessary for positive intergroup contact: equal status, common goals, intergroup cooperation, and the support of authority. Each of these conditions can be translated into university applicable terms.

One of the explanations for the enhanced achievement associated with cooperative learning is that the exchange of ideas and perceptions typical of such interaction causes participants to elaborate on their constructed version of knowledge. In cognitive science studies, elaboration has been linked to increased retention, and is closely associated with Piaget’s concepts of assimilation and accommodation (Meyers-Levy, 1991; Takahashi & Inoue, 2009). Somewhat akin to Piaget’s ideas of accommodation, Johnson (1981) explains how the “constructive controversy” (p. 8), which arises out of an exchange of incompatible perspectives during dialogue leads to “conceptual conflict or disequilibrium” (p. 8). This imbalance prompts the affected student to restore cognitive equilibrium through a process of “epistemic curiosity” (p. 8), or a search for additional relevant information, clarification, or a “reorganized conclusion” (p. 8), usually through dialogue. Johnson

(1981) argues that such controversy, if carefully managed, can be used to great effect in cooperative education.

Wells, Chang, and Maher (1990) identify the effort to restore equilibrium during such conceptual conflict as central to the theory of constructivism. They explain that since knowledge is uniquely constructed by each individual and dependent upon that individual's perception, it is subject to revision by others' constructed versions. Summarizing Vygotsky (1978), they write: "In conversational interaction, participants formulate linguistic representations of their understanding of the matter in question and modify those representations in the light of the feedback they receive on the appropriateness of their formulations in the contributions of other participants" (p. 57). These 'linguistic representations' are a form of elaboration, and include both explanation and defense of thinking (Postholm, 2008), actions typical of peer teaching and cooperative learning. The concept that peer tutoring helps both the tutor and the student is commonly accepted (Baines, Blatchford, & Kutnick, 2003; Oakley et al., 2004; Postholm, 2008).

Rationale for Cooperative Learning

As Slavin (1991) observes, "cooperative learning has been suggested as the solution to an astonishing array of educational problems" (p. 71). In fact, the wide definition of cooperative learning has allowed many researchers to attribute benefits far beyond the strictly academic. In its various forms, and when compared with competitive and individualistic learning, cooperative learning strategies have been linked to: the development of higher-order thinking and critical thinking skills (Barfield, 2003; Johnson et al., 2007; Johnson, 1981; Oakley et al., 2004; Slavin, 1991; Woodward, Colyar, & Woodward, 2009); higher achievement and increased retention of new knowledge (Johnson et al., 2007; Oakley et al., 2004; Woodward et al., 2009); the development of meta-cognitive abilities and habits of life-long learning (Bourner et al., 2001; Cantwell & Andrews, 2002; Johnson et al., 2007); the development of tolerance to diversity among peers and other pro-social justice behaviours, and as part of an inclusive teaching practice

(Ravenscroft et al., 1999; Slavin, 1991; Woodward et al., 2009). Additionally, Johnson et al. (2007) report that cooperative learning strategies stimulate students to persist in finding creative solutions to problems more challenging than they would normally accept as individuals, a phenomenon which Colbeck, Campbell, and Bjorklund (2000) attribute to disagreements which occur during group dialogue (which they label as ‘creative conflict’). Others report that cooperative learning helps students develop communication and teamwork skills demanded by industry (Maiden & Perry, 2011; Moore, 2005; Oakley et al., 2004; Webb, 1995), as well as self-esteem and valuable peer networks (Woodward et al., 2009), which Johnson (1981) reports to be highly influential on students’ achievement, socialization, psychological health, and the ability to process others’ perspectives.

The skepticism of Slavin’s (1991) question, “how many of these claims are justified?” (p. 71) is reasonable, and although his remark is over twenty years old, perhaps also very shrewd. As will be discussed later in this literature review, many problems associated with cooperative learning turn on misunderstandings of group work implementation and management. As Koutselini (2009) says, paraphrasing Johnson and Johnson (1994), “There is a big difference between simply putting students together in groups to learn and structuring groups of students to work cooperatively” (p. 35). Johnson (1981) concurs, “constructive influences on students’ achievement, socialization, and development, however, do not automatically result from proximity to other students” (p. 9).

The long list of reported academic and social benefits of cooperative learning notwithstanding, perhaps a simpler, more plausible, and important benefit of cooperative education is that it prepares students for life in a democratic society. Cooperative learning and democratic skills enjoy a reciprocal relationship; while cooperative learning helps to develop such skills, it also demands them (Gillies, 2003). Discourse is a central characteristic of democracy and democratic life, and the ability to negotiate and engage in a meaningful, purposeful discussion is

crucial for maintaining a peaceful society. Students who practice these skills in group-based project work, which encourage creative thinking and a willingness to listen to other's perspectives, are developing skills necessary for democratic life, and respect for democratic values (Johnson & Johnson, 2010; Serrano & Pons, 2007; Slavin, 1991). Ültanır (2012) extends this idea and, paraphrasing Dewey, reports that "the administration of a constructivist class is democratic ... the sharing of responsibility and decision making is emphasized" (p. 205).

Although Dewey's name is synonymous with the democratic purposes of education, his ideas are predated by Francis W. Parker, an early proponent of education in support of democratic preparation. Parker (1894) wrote, "A school should be a model home, a complete community, and embryonic democracy" (p. 450), and also that "democracy without efficient common schools is impossible" (p. 451). Parker's contribution to contemporary education was an articulation of his belief in student-centred learning. This revolutionary shift, shaped by his democratic values, led to the idea that students could themselves be teachers to each other, which in turn created the conditions for students to work in groups and, ultimately to the modern form of group work we see in undergraduate coursework today.

John Dewey's philosophy of education, as reviewed in Sharan (1990) includes the concept that "the means of education must be consistent with the ends" (p. 31). He felt that the experiences of school ought to be authentic representations of life outside of school, and also that the traditional model of education, featuring teacher-centred rote learning, did not meet this requirement. In order to encourage students to think critically and practice dialogic exchange, he developed the 'project method', an early working model of cooperative education which incorporated small group learning (Sharan, 1990; Smith et al., 2005). The project method was Dewey's way of helping individuals socialize into democratic society. As Sharan (1990) explains, Dewey felt that "education is part of life and should be conducted as such, and not just as preparation for life to be lived later" (p. 32). As with Parker's ideas of student-centred learning,

Dewey's idea of project-based cooperative work supported students in the development of skills for responsible democratic citizenship.

Responsible citizenship within democratic society includes values embodied within the social justice movement. Numerous research studies have shown that cooperative learning encourages tolerance and, through experiential heterogeneous interaction, to reduce stereotypical perceptions of others linked to differences in ethnicity, religion, gender, sexual orientation, ableness, social class, and other socially-constructed norms (Bouas, 1996; Johnson et al., 2007; Smith & MacGregor, 2000). Additionally, Slavin (1991) reports on studies that show “consistently that students express greater liking for their classmates in general as a result of participating in a cooperative learning method” (p. 78). Johnson and Johnson (1974) argue that heterogeneity in groups (beyond academic ability) is valued when the group adopts a cooperative goal structure.

A common rationalization of cooperative learning is that it prepares students for the workforce by providing them with teamwork skills they will need when they enter it, and by providing authentic representations of typical industry demands (Bourner et al., 2001; Ford & Morice, 2003; Gatfield, 1999). Smith et al. (2005) report that the ‘Five Essential Elements’ necessary for cooperative function, developed by the Johnson brothers, are “nearly identical to those of high-performance teams in business and industry” (p. 9), which suggests a starting point for professors interested in planning effective group work assignments. Increasingly, industry relies on team approaches for creative problem-solving and the execution of complex operations (Colbeck et al., 2000; Webb, 1997). However, despite the demands of industry and the promise of cooperative education practices to deliver necessary skills, Anstrom (2010) reports studies which demonstrate that “graduates are entering the workforce ill-equipped to be effectively involved in complex interaction and problem-solving tasks” (p. 7) and that “the inability of graduates to work within a group environment can have a negative impact on industry outcomes” (p. 7).

Cooperative Learning in University Settings

Although primarily researchers of cooperative education practices in primary and secondary levels, Johnson et al. (1998) define, and claim authorship of, three basic types of cooperative education operating at the university level: formal, informal, and base groups. The main difference between the three types is the length of time the groups persist. Informal groups are of an ad-hoc nature, usually meeting for brief periods within a class, and typically employ specific strategies like Jigsaw, or Think-Pair-Share. Ravenscroft et al. (1999) note that such “informal techniques can easily be applied within a lecture format” (p. 171). Base groups usually meet for an entire course or semester. Johnson et al. (1998) define formal groups as “students working together, for one period to several weeks, to achieve shared learning goals aimed at joint completion of specific tasks” (p. 33), and establish a specific and comprehensive set of functions for the professor which focus on planning, preparation, implementation, monitoring, and assessment of the group work. This presents group work as a highly structured, monitored, and controlled teaching tool characterized by significant professor involvement (Koutselini, 2009; Livingstone & Lynch, 2000).

Often the terms ‘cooperative’ and ‘collaborative’ are used interchangeably when describing group-based learning in university settings. Several researchers distinguish between the approaches by examining the role of the instructor. For example, in a journal article dedicated to clarifying the two terms, Panitz (1999) explains that “cooperative learning tends to be more teacher-centred, for example when forming heterogeneous groups, structuring positive interdependence, and teaching co-operative skills” (p. 6). This distinction is echoed by Berry (2008), Oakley et al. (2004), Pfaff and Huddleston (2003) and Ravenscroft et al. (1999), who all stress the active organizational involvement of instructors during cooperative learning. However, Woodward et al. (2009) state, “Faculty, however, have an important role in the collaborative process. *Faculty provide structure* to the learning activity, *intervene* when students encounter

problems, and *provide important evaluative feedback* [emphasis added]" (p. 103). Each of these studies highlights how instructors play a role in providing structure and direction to cooperative learning activities. Although oriented toward primary and secondary cooperative learning, the four major tasks of teachers provided by Johnson and Johnson (2013, p. 3) have relevance in university settings (Johnson et al., 1998): (a) making pre-instructional decisions; (b) explaining the instructional task and cooperative structure; (c) monitoring students' learning and intervening to provide assistance; (d) assessing students' learning and helping students process how well their groups functioned. In a study of effective team administration, Bacon, Stewart, and Silver (1999) make six recommendations for professors that complement those of Johnson et al. (1998), including: (a) provide teams with adequate descriptions of outcomes and processes; (b) maximize team longevity; (c) allow students to select their own groups; (d) be wary of traditional peer evaluations; (e) set team size by pedagogical objectives; and (f) look for ways to improve team training. Two of these recommendations, group self-selection and the use of peer evaluations, are areas of group project practice examined in detail by Oakley et al. (2004).

In general, the authority during cooperative learning remains with the instructor (Panitz, 1999). Oakley et al. (2004) also describe the professor as an "ally" (p. 15) to students who take charge when confronting group dysfunction. With this authority comes the responsibility of instructors to train students in the social and group skills necessary for successful task completion and learning outcomes (Anstrom, 2010; Johnson & Johnson, 2013; Panitz, 1999; Smith et al., 2005). Oakley et al. (2004) are more specific on this concept, observing that:

Students are not born with the project management, time management, conflict resolution, and communication skills required for high performance teamwork. If team assignments are to be given, explicit steps should be taken to help students learn those skills and to equip them to deal effectively with the logistical and interpersonal problems that commonly arise in collaborative efforts. (p. 9)

These observations imply that instructors may make assumptions about students' abilities to perform in groups, and assign group work without providing a supportive environment in which to grow the necessary skills (Hall & Buzwell, 2012). Commenting on the consequences of such assumptions, Oakley et al. (2004) state that "being part of an ineffective or dysfunctional team ... can lead to extreme frustration and resentment" (p. 9). Such negative experiences often impact students' willingness to engage in future group work (Marks & O'Connor, 2013; Strauss & U, 2007; Walker, 1993). However, Livingstone and Lynch (2000) argue that exposure to group conflict is an essential part of the group experience, and something students ought to learn to deal with. Furthermore, the authors report that students' recollections of group work experiences improve upon project completion, even if they involved conflict and challenge. This finding supports assertions by Oakley et al. (2004), that students can and should solve most of their own problems with group dysfunction, and are more likely to do so with training in positive conflict resolution provided by professors.

Despite a large theoretical basis to support the use of group work in university, many studies report problems with its implementation (Bourner et al., 2001; Brown & McIlroy, 2011; Drury, Kay, & Losberg, 2006; Marks & O'Connor, 2013; Pfaff & Huddleston, 2003). Typically reported problems can be sorted into categories of: (a) conflict (e.g., social and group dynamics problems); (b) systematic (e.g., bias within group assessment plans); and (c) pedagogical (e.g., differences between learning intent and outcomes for group projects). Research shows that most, if not all, of these problems lie within the influence of professors, and that although the problems are commonly experienced by students and appear to be symptomatic of student traits, the solutions to the problems and the responsibility to offer the solutions lies with their professors (Livingstone & Lynch, 2000; Oakley et al., 2004).

Research into student perceptions of group work often reveal the 'behind-the-scenes' stresses and frustrations often invisible to professors (Brown & McIlroy, 2011; Drury et al., 2006;

Ford & Morice, 2003; Livingstone & Lynch, 2000), including details of students' attitudes and beliefs about group work which heavily influence their group experiences and their educational outcomes (Marks & O'Connor, 2013), and how professors' implementation of group work affects overall student experience (Oakley et al., 2004; Pfaff & Huddleston, 2003). Thus, studies into student perceptions of group work offer valuable clues to help direct professors' practice, and expose a gap between the theoretical potential of cooperative education and the reality of its implementation.

Studies into professors' perceptions of group work help explain why such a gap exists (Livingstone & Lynch, 2000), and identify possible misconceptions professors have about their roles and duties when assigning team projects, as well as assumptions they may have about students' preparedness for such work. For example, Anstrom (2010) reports that in spite of research which recommends that professors spend time conditioning their classes for group work, professors "did not instruct on the group work process" (p. 147) and that "faculty made the assumption or had the expectation that students had previous training on group work skills" (p. 149). Such assumptions and misconceptions may cause problems for students because they allow preventable social and group dynamics problems to develop and persist. In this same study, Anstrom (2010) shows how professors' previous experience with group work (as students, themselves) and their lack of training in its use often influences the way they implement it, or accounts for their decision not to use it. Many of the problems experienced by students during group projects go unnoticed by faculty, or are not brought to their attention by the students (Ford & Morice, 2003). This phenomenon may explain the persistent and universal nature of such problems, and suggests that change to professors' practice regarding group work may depend upon student feedback.

One useful way of categorizing commonly reported problems is by area of influence. In a study examining predictors of student attitude towards group work, Pfaff and Huddleston (2003)

found that nearly all of the positively-correlated factors were those oriented towards, controlled, or heavily influenced by professors: how group assignments were assessed (and whether or not to use peer evaluations as accountability incentives); the amount of group work assigned in a course; the amount of class time allocated for group work; and how ‘free-riders’¹ were managed. An important factor curiously missing from Pfaff and Huddleston's (2003) analysis is a discussion of group formation strategies. Most research recommends that faculty create groups rather than allowing students to self-select (Oakley et al., 2004; Pfaff & Huddleston, 2003; Smith & MacGregor, 2000), though some researchers argue for randomized selection (Livingstone & Lynch, 2000) or for self-selection (Zhang, Johnston, & Kilic, 2008). Heterogeneity of ability is important in group formation because it can allow weaker students to benefit from those more advanced, and for advanced students to benefit from the efforts of tutoring their peers (Oakley et al., 2004); professors can arrange for such diversity with minimal data collection. Marks and O’Connor (2013) present studies correlating positive group work experiences with high levels of professor involvement, and others in which students attribute their negative experiences to a lack of guidance by professors. Taken together, these studies point to the important and influential role professors play in determining the experiential outcome of group work for their students.

By contrast, Pfaff and Huddleston (2003) found that most factors linked to students, as individuals, were found to be unrelated or minimally-related to their attitudes towards group work: leadership qualities, levels of cooperativeness, and previous experiences with group work. These results seem counter-intuitive and disagree somewhat with findings reported by Marks and O’Connor (2013), who found that a positive perception of group work was correlated with student personality traits such as tolerance towards potential conflict, ambiguity, open-mindedness, and superior communication skills – all of which are traits normally associated with effective leadership. With respect to the influence of previous experience, Strauss (2007) reports that “once

¹ Free-riders are defined as students who, in the presence of others, decrease their individual efforts or “shirk their responsibilities” in groups (Pfaff & Huddleston, 2003).

a student has experienced ... unjust treatment, this episode will colour his/her approach to future group work assignments” (p. 149).

Similarly, Oakley's (2002) analysis of dysfunctional group behaviour showed that personality traits typical of ‘good’ students sometimes enable or sustain problems within groups, especially when their passive approach towards the resolution of group conflicts leads to resentment. These findings suggest that students, as well as professors, can influence group work through their behaviour. Nevertheless, it cannot be assumed that students possess the social and teamwork skills necessary for successful navigation of group activities; although students are the ones who interact in groups, professors are the ones who must provide them with the skills to do so (Livingstone & Lynch, 2000; Oakley et al., 2004). Furthermore, this suggests that it is not only the conspicuous problems such as ‘hitchhiking’ that need attention during training; dysfunctional ‘cracks’ often develop because students do not recognize that a particular problem exists, or are not able to identify their role in the problem.

Deficits in social, communication, and teamwork skills account for the most commonly-reported problems with group projects, including: free-riding (Hall & Buzwell, 2012); individuals who display domineering, disruptive, destructive, or resistant behaviour (Oakley et al., 2004; Oakley, 2002); absenteeism (Marks & O’Connor, 2013); reluctance to depend on others (Garvin, 1995; Marks & O’Connor, 2013); negative attitudes based on previous dysfunctional group work experiences (Pfaff & Huddleston, 2003); perceptions of unequal workloads or effort (Bourner et al., 2001); logistical and scheduling problems; and difficulties with organizing tasks (Pfaff & Huddleston, 2003).

Some problems associated with group work are not easily perceived by students or professors and are revealed only through analytical study. Almond (2009) uncovered a systematic bias in group assessment practices in which students with high individual marks received lower marks in group assignments, a situation explored in some detail by Nordberg (2008), who

concluded that assessment of group projects is, in general, “more complex than the literature describes” (p. 491) and that, despite their flaws, current practices were the best available. Unfortunately, group assessment plans are often designed to place a higher value on the demonstration of academic achievement, and provide little incentive for students to develop their group skills. Such assessment decisions directly impact students’ attitudes towards group work (Drury et al., 2006; Feichtner & Davis, 1984; Pfaff & Huddleston, 2003). Peer assessments have been suggested by some researchers as an effective remedy for group assessments perceived as unfair by students, and as a way to increase student accountability (Frykedal & Chiriac, 2011; Zhang et al., 2008). However, other researchers have identified ethical issues with it, claim that it can induce tension within groups (Orr, 2010) and that it is only effective when its use is monitored and assessed by professors (Almond, 2009).

The way in which students approach group work, and the strategies they use to complete group-assigned tasks can significantly impact their learning, and also their experience. Although the intent of group work is for students to work cooperatively, and thus avail themselves of the many reported benefits of socially interactive learning, some students choose to implement a ‘divide-and-conquer’ strategy, which Oakley et al. (2004) describe as “parceling out and completing different parts of the assignment individually and putting the products together without discussion” (p. 11), a behaviour the researchers claim to be typically associated with strong students. When students choose to use a divide-and-conquer strategy, they miss valuable opportunities to hear alternative perspectives, to resolve conflicts, to practice cooperative skills, and to turn cooperative learning into collective individualistic learning. In such a strategy, Pfaff and Huddleston (2003) report that “each student learns only about his or her area of specialization” (p. 38), which demonstrates how a lack of professor oversight can directly impact the type of learning which occurs in group settings. Through careful planning, choices of assessment, and by providing group work orientation, professors can steer their students away

from this common practice and hold them accountable for required learning (Johnson & Johnson, 1994, 2013; Postholm, 2008). Oakley et al. (2004) provide a framework for such practice, which includes methods for optimal group formation, suggested topics for introductory lessons on group dynamics, and assessment strategies to promote student accountability.

In addition to highlighting problems, studies into students' perception of group work provide a list of opinions and misconceptions, all potentially obstructive to effective group work and worth the attention of professors. Such studies also illustrate the equivocal nature of how group work is received by students; for example, some studies show that students do not believe group projects increase learning or study time, while others show the opposite (Marks & O'Connor, 2013). Other studies demonstrate how students' perception of group work often improves over its course, signifying growth in group work skill (Postholm, 2008). For example, Livingstone & Lynch (2000) report "that the intensity of the project was appreciated after the event ... 'we didn't give up'" (p. 340). These findings suggest that students will benefit when professors take the time to rationalize, explain, and support group work through feedback.

Although much research, detailed above, indicates that professors' practice heavily influences group work experiences of their students, and that professors' active involvement throughout such projects can prevent most of the problems commonly reported by students, the expanse and equivocal nature of the literature (Johnson, Johnson, & Stanne, 2000) makes it difficult for professors to compile a useful and informed set of guidelines for their own practice. Most studies on group work in higher education are narrowly focused and problem-oriented rather than broad and solution-oriented. And, while the various formalized strategies extant in elementary and secondary education can usually be adapted to higher education (Berry, 2008), they are not always appropriate for longer duration formal group work, and do not address its most critical and problematic aspects. Research conducted by Oakley et al. (2004) offers a relatively rare overview of implementation strategies targeted specifically to higher education.

The Oakley Framework

Responding to the call for professors to assume an active role in group assignments, Oakley et al. (2004) have developed a “brief instructor’s guide to managing team assignments” (p. 10), with a goal of improving group work experiences for their students. The ‘Oakley Framework’ (O.F.), so named for the purposes of this research, represents an interpretation of scholarly research, observation, and rich student feedback collected during field testing. Although it presents as a set of best practices for professors, it does offer diversity of opinion on a number of issues. The three foci which make up the Framework account for and address the most commonly-reported problems during group projects: (a) Team Formation; (b) Team Development; and (c) Accountability. The researchers provide a rationalized, theoretical basis for all of their recommendations, and include forms to assist professors through each of the Framework's phases (Appendices A to H).

Group Formation. Groups can be formed in three basic ways: (a) self-selected, where students choose their own members; (b) randomly-selected, where the professor chooses the members of groups, but without the use of any selection criteria; and (c) professor-selected, where groups are formed on the basis of defined selection criteria. The way in which groups are formed can impact the quality and quantity of learning which occurs within the group (for both academic and social skills), the relationships between group members, as well as the students’ overall experience of the group project (Berge, 1998; Johnson, 1981; Zhang et al., 2008).

Certain group formation strategies can set up undesirable trade-offs; for example, Zhang et al. (2008) found that self-selection increased student motivation but led to bias in peer assessments, whereas randomized selection had the opposite effect in both categories. Bacon et al., (1999) reported a similar trade-off, and observed that while self-selected groups displayed rapid cohesiveness and productivity, they lacked diversity in skill and perspective. Research by Livingstone and Lynch (2000) extended this concept, showing how self-selected groups stifle

students' social growth: "allowing students to select their own group membership emphasizes individualistic learning approaches, while random or structured selection emphasises the sociocultural" (p. 342). An interesting perspective on self-selection is offered by Maiden and Perry (2011) who observed that self-selection does not always mean that students enter into such groups harmoniously; often 'leftover' students are reluctantly accepted into groups only to be shunned or marginalized during projects. Taken together, these studies suggest that while self-selection is often the first choice of students and a very common practice in higher education group work (Almond, 2009), it leads to problematic behaviours and restricts learning benefits associated with group cooperation. In other words, self-selected groups are likely groups in appearance only (Johnson & Johnson, 2013).

Supported by this research, the O.F. advocates for instructor-formed groups, and provides a clear and rationalized method for instructors to select group members and dissolve groups. In the O.F., the main argument presented against self-selection is that it typically produces two types of equally ineffective groups: (a) those of strong students, who "often adopt a divide and conquer policy" (p. 11); and (b) those of weaker students who "flounder aimlessly or reinforce one another's misconceptions" (p. 11). Oakley et al. (2004) argue that diversity of ability within groups helps to create the conditions for constructivist learning. As the strong students tutor and model effective work habits for the weaker ones, they are engaging in and benefiting from a form of elaboration. In addition, the interaction between members is encouraged because of a shared group goal; thus, group diversity discourages individualistic 'divide and conquer' strategies. While students may equate diversity with discomfort, Oakley et al. (2004) present research, supported with their own professional experience, that students' "worst group experiences were with self-formed groups and their best with instructor-formed groups" (p. 11). If students are resistant towards instructor-formed groups, the O.F. advises that instructors explain that in industry, groups are rarely self-selected and that an employee's ability to work with others is often evaluated.

The O.F. presents two main criteria for group formation: (a) groups should include students with diversity of ability but with a common schedule; and (b) in the first two years of university, at-risk minority students should not be isolated within groups. The first criterion ensures that groups will be heterogeneous in ability and thus maximally constructive, and the second encourages minority students to remain active within group discussions and activities, and guards against their marginalization. The basic data required for the criteria is collected, on a voluntary basis, through a simple form (Appendix A). The O.F. also provides explicit instructions for the dissolution of groups; however, they observe that “the overwhelming majority of the teams elect to stay together. The only ones that do not are those that are painfully dysfunctional, often because of uncooperative or domineering members” (p. 13).

Team Development. The difference between a group and a team lies in the members’ ability to communicate effectively, resolve disagreements, and to maintain a focus on the shared goal or intended product of the group. As Oakley et al. (2004) state: “With a group, the whole is often equal to or less than the sum of its parts; with a team, the whole is always greater” (p. 13). The O.F. outlines a path along which instructor-formed groups can evolve into effective and cooperative teams: (a) by establishing and codifying expectations through a series of pseudo-contracts; (b) by providing brief instructions on group dynamics up front, and reserving more in-depth instructions for when problems arise; and (c) by providing advice for dealing with typical types of problem behaviour.

The pseudo-contracts promoted in the O.F. to establish “a common set of realistic expectations that members generate and agree to honor” (p. 13) are supported by research which shows that formal publically-made agreements are more likely to be honoured (Oakley et al., 2004). Furthermore, the use of such contracts is consistent with a message that academic group work is preparation for industry, and simulates cooperative agreements typically found within and between organizations (Mariti & Smiley, 1983), as well as unwritten psychological contracts

which often define the ‘spirit’ of the relationship between employers and employees (Guest & Conway, 2002; Ye, Cardon, & Rivera, 2012). An important detail of the contract design included in the O.F. is that they are prepared by the students, which appeals to the democratic ideals of cooperative learning theory (Ültanır, 2012). In addition to the pseudo-contracts, the O.F. provides a customizable ‘boilerplate’ policy statement upon which instructors can base their preliminary instructions on group dynamics.

Oakley et al. (2004) outline the four most common profiles of problem students with groups: (a) hitchhikers; (b) dominators; (c) resisters; and (d) those with polarized goals. Consistent with the student-centred theme of the O.F., strategies for dealing with problem team members are introduced through an ungraded reflective essay assignment which students complete based on a reading entitled *Coping with Hitchhikers and Couch Potatoes on Teams* (Appendix H), derived from previous research by Oakley (2002). Oakley et al. (2004) reason that the essay assignment allows for deeper processing than a lecture format would allow, and remark that “probably the best predictor of a problematic team member is a sloppy and superficial response to this assignment” (p. 15). The assigned reading depicts a hypothetical group, which experiences various dysfunctional scenarios linked to the specific problem behaviours outlined earlier. Through the analysis of these scenarios, the authors present students with practical, concise information about mistakes the group made which contributed to the problem, what the group should have done instead, and how to identify problems early in group projects. As a supplement to the essay, the O.F. provides for workshops on specific problematic behaviour, where instructors guide discussion and provide a safe space for students to voice ideas, share experiences, and generate appropriate strategies. A key facet of the O.F. is that students, once informed, are held accountable when problems arise; if they choose not to confront problem team members, and continue to carry them then they surrender the right to complain about group problems at a later date.

Accountability. The O.F. proposes the use of peer assessments as a way to ensure student

accountability within groups, and presents two approaches: (a) having students report their estimates of each others' proportional efforts; (b) having students report on 'team citizenship'. Oakley et al. (2004) advise against the first method, explaining that it places a divisive pressure on the group, causes members to act individualistically and competitively, and rewards academic achievement over cooperation. The second method has the opposite effect: it promotes and rewards cooperation instead of academic achievement, and affords weaker students a voice. This distinction answers criticisms of peer evaluation raised by Orr (2010) and others, who claim that it creates unnecessary stress within groups. The training resources included in the O.F., along with the prescribed method for adjusting marks with peer assessment instruments agree with Almond's (2009) assertion that peer assessment must be monitored by professors in order to be effective.

As a concise guide, based on scholarly research, the O.F. offered an effective theoretical lens through which the testimony of research participants could be analysed. Rather than merely reporting their experiences with group work, participants were able to compare their experiences with the recommendations, strategies, and elements of the O.F. In this way, the participant responses were gathered in a somewhat structured manner, centred around the theoretical lens of the O.F. Although, in general, the participants disagreed with much of the O.F., the arguments they provided to justify their respective positions allowed for deep insight into their lived experience with the phenomenon. To gather these participant experiences, I chose to conduct a focus group interview with professors from Lakehead University. Prior to the interview, I circulated a summary of the O.F. to the participants and asked them to complete a questionnaire based on questions drawn from the focus group interview guide I had prepared. The following chapter provides details on the methodology of this research.

Chapter Three: Methodological Overview

In an effort to improve the academic and social experiences of students involved with group projects, I conducted a focus group interview with professors from Lakehead University, and used the Oakley Framework (O.F.) as a theoretical lens to guide the overall inquiry and interpretation of data. The participants were selected using 'purposeful sampling', on the basis of their experience with implementing group work and their desire to improve their practice and the outcome for their students (Rabiee, 2004). Patton (2002) considers purposeful sampling to yield participants who are "information rich and ... offer useful manifestations of the phenomenon of interest" (p. 40). Although the participants did not know one another at the time of the interview, their discussions showed evidence of their rich familiarity with the phenomenon, displaying what Nießen (1977) describes as "underlying patterns of meaning" (as cited in Flick, 2002, p. 115). These established patterns of meaning, which include ways of conceptualizing or talking about group work implementation, were a potentially rich source for understanding the phenomenon.

In this chapter, I discuss the theoretical basis and suitability of focus group interviews for phenomenological inquiry as well as strategies for the analysis of focus group data. Included in the discussion is a detailed explanation of empirical phenomenology and its characteristic process of bracketing. During the discussion of interview technique, I demonstrate how the questions I used for the interview were developed from a phenomenological perspective.

Focus Groups

A focus group interview format allows researchers to gather "high-quality data in a social context where people can consider their own views in the context of the views of others" (Patton, 2002, p. 386). The interaction between participants enhances the data quality, and is a distinguishing characteristic of focus groups compared with group interviews, which congregate participants for reasons of efficiency rather than interaction (Asbury, 1995; Bradbury-Jones,

Sambrook, & Irvine, 2009). In addition, patterns of consistency, or diversity, of viewpoint are easily determined using focus groups (Patton, 2002), especially if attention is paid to the quality and characteristics of the participant interactions. Many of the limitations of the focus group technique identified by Patton (2002) are reminiscent of problems commonly reported with group work: unequal levels of participation, the possibility of dominant members, and the influence of prior relationships. In other words, participants' statements are shaped "partly in response to their psychosocial environment" (Carey, 1995, p. 489). In addition, Patton (2002) reports that focus groups cannot guarantee confidentiality, and are also better at the identification of broad themes rather than "micro-analysis of subtle differences" (p. 387). Despite these limitations, I feel that a focus group is a highly appropriate format for the discussion of group work and agree with the assessment of Patton (2002) and of Bradbury-Jones et al. (2009) that cooperative dialogue between people of similar background can enhance data quality.

Some researchers have questioned the compatibility of phenomenological inquiry and focus groups, claiming that "phenomenology seeks essential characteristics or 'essences' of phenomena in a manner that requires an individual to describe their experiences in an 'uncontaminated' way" (Bradbury-Jones et al., 2009, p. 663). However, for the current study, a focus group format offered an essential and unique dimension to the phenomenon under study: it was, itself, a group. The dynamics and interaction present during the interview prompted and reminded participants of their own group-related experiences. For this reason, I found the focus group an appropriate format for phenomenological inquiry. The authentic elements of group function stimulated discussion, acted as reminders of group experiences, and reduced the participants' need to imagine group scenarios. The interactions between focus group participants simulated the process of knowledge construction intended during student group projects.

Belzile and Öberg (2012) present various design options for focus groups, based on common qualitative theoretical frameworks, including phenomenology. They report that focus

groups are useful for “gaining insight into perceptions or experiential everyday knowledge” (p. 468) and for examining “the intersubjective realities experienced by social actors” (p. 468). Used as part of phenomenological inquiry, a focus group can help answer such research questions as “what are the perceptions, feelings, meanings, or ways of thinking held by a group that shares in a particular intersubjective reality?” (p. 468). Finally, the authors report that the output of phenomenological focus group interviews ought to include the “respondents’ perspective in their own words” (p. 469).

Although the focus group technique was developed out of a positivist tradition which valued the efficiency and economy of data collection and the primacy of the individual within the group, the method has been developed as one suitable for social-constructivist inquiry (Belzile & Öberg, 2012). One of the defining characteristics of focus groups, and one which differentiates it from group interviews is the expectation that respondents will interact with each other in various ways (Asbury, 1995; Belzile & Öberg, 2012; Kitzinger, 1994). Indeed, Rabiee (2004) reports that “the uniqueness of a focus group is its ability to generate data based on the synergy of the group interaction” (p. 656). Such interactions are relevant and worthy of analysis for various important reasons. First, they help to re-create patterns of normal social communication and therefore “correspond to the way in which opinions are produced, expressed, and exchanged in everyday life ... the group becomes a tool for reconstructing individual opinions more appropriately” (Flick, 2002, p. 114). Thus, focus groups serve as an alternative to individual interviews, often criticized as being artificial for holding respondents in decontextualized settings, and for the unnatural manner in which interviewer and respondents interact (Flick, 2002). Second, interaction data can reveal: (a) respondents’ shared language and preferred terminology; (b) respondents’ values, beliefs, and myths related to the phenomenon; (c) the arguments used to defend contrasting views or to persuade others within the group; (d) how the group members problematize and conceptualize the phenomenon (Belzile & Öberg, 2012); (e) group norms and standards,

particularly important when analysing possible ‘group effect’ such as censorship; and (f) “how knowledge and ... ideas both develop, and operate, within a given cultural context” (Kitzinger, 1994, p. 116).

Kitzinger (1994) outlines two basic forms of dialogic interaction: (a) complementary; and (b) divisive. While complementary interactions mimic those of normal, congenial communication and encourage participation within the group, it is the divisive interactions which offer researchers a chance to delve deeply into the respondents’ perspective of a phenomenon. By asking respondents to clarify their respective positions, to explain why they may have changed their beliefs, or to speculate about the reason for diversity of opinion, a researcher can engage in valuable in-situ data collection directly with the respondents, rather than relying on “arm-chair theorizing about the causes of such differences” (Kitzinger, 1994, p. 113) during later data analysis. If the researcher tactfully and skillfully pursues disagreements between respondents, it may be possible to add valuable dimensions and perspectives to the research phenomenon. Interaction data is collected in multiple and simultaneous ways and becomes part of the research data set. Notes can be made by both the researcher and an independent observer, capturing the characteristics and impressions of the interactions. Additionally, interactions are recorded on digital audio and video for later review and analysis.

The focus group included four participants², all professors from Lakehead University in Thunder Bay, Ontario: Avril (Women’s Studies); Brian (Engineering); Chris (Business); and Daphne (Social Work). This ideal number of participants follows the recommendation of Rabiee (Rabiee, 2004) that a focus group be “large enough to gain a variety of perspectives and small enough not to become disorderly or fragmented” (p. 656). Participants were invited to participate in the focus group through a letter, which was circulated with the assistance of Lakehead’s Instructional Development Centre. Remuneration was not provided to participants; however, the

² The participants have been provided with pseudonyms.

recruitment letter explained to the participants that their participation in the research study would add to the body of knowledge related to student-centred learning and may help to improve their own practice. The focus group interview was held in a meeting room on the Lakehead University campus, in Thunder Bay, Ontario. It lasted approximately 90 minutes, and was recorded digitally.

Interviews

I chose to use a focus group interview to gather data, since interviews, in general, offer the best way to access critical opinion based on professional experience. Interviewing is based on the assumption that “the perspective of others is meaningful, knowable, and able to be made explicit” (Patton, 2002, p. 341). In order to uncover the essence of group work practice, I needed to ask professors invested in the issues related to group projects about their experiences, and therefore made the assumption that their perspectives would be meaningful. Although the interaction between and among focus group members undoubtedly enhanced data quality and thus made the focus group format valuable, I had to remember the potential for individual responses to be influenced by such interaction and that those responses “could differ from data that might have been collected before the session occurred” (Carey, 1995, p. 489). Kidd and Parshall (2000) provide a useful perspective of this issue, explaining that such influences and adjustments can also be interpreted as the results of group members challenging each other’s perspectives in a fashion similar to constructivist learning environments.

General questions. Questions appearing on the focus group interview guide were open-ended, in an attempt to encourage interaction and dialogue between participants. The first round of questions was directed towards participants’ general experiences with group work, calculated to stimulate early discussion, group cohesiveness, and to make the participants feel comfortable (Morgan, 1995). The initial set of questions were developed in accordance with Moustakas’ (1994) essential questions of phenomenological inquiry, that is, (1) what have you experienced in terms of the phenomenon?; and (2) what contexts or situations have typically influenced or

affected your experiences of the phenomenon? The questions in this section aimed to establish the participants' basic attitudes towards group work, the depth of their experience with it, and to assess the participants' normal level of involvement when assigning group projects. In order to preserve the integrity and diversity of individual perspectives, I asked participants to prepare written responses to these general questions before attending the focus group session. Supporting this strategy, Carey (1995) reports, "experience shows that there will be an increased adherence to the written answers even if only the writer sees his or her answers" (p. 490). These questions were revisited during the focus group, and a valuable aspect of the later analysis was a side-by-side comparison of the responses.

These initial questions were as follows:

1. When you assign group projects, what general observations do you make? (These observations could be drawn from any phase or aspect of the group assignment).
2. What are your reasons for assigning group projects?
3. What are the benefits of group projects for students?
4. What are the benefits of group projects for professors?
5. When you assign group projects, how do students receive them? For example, what kinds of things do they say?
6. In your opinion, what are the problems most commonly reported by students, related to group projects?
7. What strategies do you use for assessing group projects?
 - a. How have these strategies changed over time?
8. What aspects of group projects are most problematic for you as a professor?

After preparing written answers to the above questions and discussing them as a group, the focus group interview continued with open-ended questions related to the participants' experiences with implementing group work. Although I had prepared a detailed interview guide, I

allowed the interview discussions to follow their natural course and consulted the guide only when topics seemed to become exhausted. The questions I asked were as follows:

1. When you assign group projects to your undergraduates, what general observations do you make?
2. What are your reasons for assigning group projects?
3. What are the benefits of these group projects for your students?
4. What are the benefits for you, as professors, in assigning group projects?
5. In your opinion, what are some of the problems most commonly reported by students, related to group projects?
6. What strategies do you use for assessing group projects?
7. What aspects of group projects are the most problematic for you as a professor?
8. When you assign group projects, how are groups formed?
9. What is your opinion of Oakley's commentary on 'divide and conquer' behaviour as it relates to arranged teams made of strong students?
10. How would you describe the pedagogical basis of group work?
11. What is your opinion of Oakley's use of 'quasi-legal' contracts to improve group function?
12. What is your opinion of Oakley's use of a reflective essay assignment to teach students about how to address problems with 'hitchhikers' in groups?
13. What final comments do you have related to your experiences with group work?

Empirical Phenomenology

The methodology of this study was based on the theory of phenomenological inquiry, which "describes the meaning for several individuals of their lived experiences of a concept or a phenomenon ... and develops a composite description of the essence of the experience for all of the individuals" (Creswell, 2006, p. 57). One of the goals of the current research was to enhance

group work experiences for undergraduate students. In order to do this, I attempted to describe the ‘essence’ of group work implementation practice so that it could be examined for possible areas of improvement. By gathering and analyzing the opinions and experiences of individual professors who have direct, yet universal experiences with implementing group projects, I was able to uncover the certain essential elements of their practice and, in turn, suggest recommendations related to them. Their past experiences and efforts to address the dysfunctional aspects of group projects uniquely qualified the participants to contribute to a meaningful discussion of current group work practices and typical problems, and of possible solutions to those problems.

In order to amplify the voices of professors and moderate the influence of my own experiences with group work, I chose to use empirical phenomenology; its core characteristic of bracketing allows researchers to “set aside their experiences, as much as possible, to take a fresh perspective toward the phenomenon under examination” (Creswell, 2006, p. 60). To implement empirical phenomenology in the current study, I used the framework developed by Moustakas (1994), and presented by Creswell (2006):

1. Identifying a phenomenon to study;
2. Bracketing out one’s experiences;
3. Collecting data from several persons who have experienced the phenomenon;
4. Analyzing the data by reducing the information to significant statements or quotes and combining the statements into themes;
5. Developing a textural description of the experiences of the persons ... a structural description of their experiences... and a combination of the textural and structural descriptions to convey an overall essence of the experience (Creswell, 2006, p. 60)

With respect to Moustakas’ (1994) first point, the research is focused on the phenomenon of group work projects at the undergraduate level, viewed through the theoretical lens of research by Oakley et al. (2004). I felt that empirical phenomenology was the most justified approach for

this inquiry since it drew upon the shared experiences of multiple, invested individuals and favoured their descriptions over my own (Creswell, 1996), and allowed for a rigorous examination of the phenomenon. This is a very important aspect of the research design because many misconceptions and assumptions exist around the phenomenon of group work, and these assumptions often guide attempts to improve its implementation.

Moustakas (1994) outlines two basic questions to guide empirical phenomenological inquiry: (1) what have you experienced in terms of the phenomenon?; and (2) what contexts or situations have typically influenced or affected your experiences of the phenomenon? Although I asked many other questions during the interview, these two primary questions guided the analysis of the data by providing a way to identify “significant statements” (Creswell, 1996, p. 61) within interview transcripts. I interpreted such significant statements as those which: (a) described the participants’ experiences with group work implementation; (b) described how their experiences with group work had been shaped by other factors or contexts; and (c) how they judge the worthiness of the O.F. based on their own experiences. After significant statements were identified, they were aggregated into themes.

The final steps in data analysis of phenomenological inquiry involved writing descriptions of participant experiences and of influential contexts which may have shaped those experiences, called textural descriptions and structural descriptions respectively (Creswell, 1996). However, rather than strive towards a single phenomenal essence in the form of the participants’ collective experiences with group work, I aimed to preserve the “variations in perceptions” (Carey, 1995, p. 492) presented by the participants.

Analysis of Focus Group Data

Transcripts of the focus group interview were prepared by reviewing the digital video and audio recording and were edited only to reduce speech disfluency (e.g., excessive use of ‘umm’). Transcripts were coded and analyzed using nVivo 10 software, which allowed for the integration

of multiple data sources, including audio, video, and transcripts. During analysis, significant statements made by participants were identified, coded, and aggregated into two main themes as part of an inductive research process. Such statements were identified as: (a) key phrases relevant to the phenomenon of group work; (b) statements which were often repeated during the course of the focus group interview, especially those shared by multiple participants; (c) metaphors, which were used to describe characteristics of the phenomenon; (d) transition statements made between topics; (e) comparative statements which revealed similarities or differences about elements of the phenomenon; (f) statements which established causality or conditional relations between elements of the phenomenon; (g) statements which defined taxonomy (e.g., types of problematic behaviour, group dysfunction, etc.); or (h) statements which established temporal or sequential aspects of the phenomenon (Gibbs, 2010). Interaction data between participants, as recorded on digital video and by the interview observer, allowed me to attribute comments made by one participant to multiple participants, depending upon the type and level of interaction. For example, if one participant said something which elicited head nods from three others, I interpreted the original comment as an experience shared by the other participants. By cross-referencing the two themes with the literature, specifically to that of Oakley et al. (2004), it was possible to position them with respect to a theoretical model. The themes that emerged from the data analysis represent the key ideas of the participants related to the phenomenon.

Focus group interviews have the potential to create large data sets, especially when ancillary interaction data is combined with transcripts. For this reason, Rabiee (2004) states that “a central aim of data analysis ... is to reduce data” (p. 657), and presents various frameworks for accomplishing this goal. Thematic representation of ideas is an important technique for reducing the voluminous amounts of data generated with focus group interviews. The inductive nature of qualitative research implies a search for meaning rather than ‘truth’, and meaning, in turn, implies an expansion of perspective, the ability of a researcher to view concepts drawn from individual

statements. However, the subjective basis of data filtering and aggregation must be defended against bias. Phenomenological inquiry, the methodology I chose to employ for this study, makes use of a special technique called ‘bracketing’ to mitigate the effects of researcher bias. A detailed discussion of bracketing follows later in this chapter.

One common method employed in qualitative research to increase rigour is known as ‘member checking’, where participants are invited to review and comment upon the interview transcripts and the interpretation of data. Proponents of this technique claim that when participants are given an opportunity to confirm, correct, clarify, extend, or otherwise modify their original testimony, the resultant interpretation will somehow be more correct; others extend the claim, stating that it increases the validity and reliability of a qualitative study (Bradbury-Jones, Irvine, & Sambrook, 2010; Guion, Diehl, & McDonald, 2011). While the idea of participant feedback seems an intuitively correct thing to do in the course of qualitative research, given its interpretive nature and the ‘borrowing’ of participants’ voices, I agree with McConnell-Henry, Chapman, & Francis (2011) who argue that “there is no directive in interpretive research to prove or generalise, so the idea of validation is illogical” (p. 30). While credibility in quantitative research is established by reliability (the general consistency or repeatability of the findings) and validity (the proximity of findings to the ‘truth’), credibility in qualitative research “depends on the ability and the effort of the researcher” (Golafshani, 2003, p. 600). Phenomenological research allows for multiple interpretations; thus, the idea of checking implies that one interpretation is to be favoured over others.

As discussed earlier, phenomenology aims to create a composite description of the lived experiences of participants. It depends on a researcher to make interpretations based on an aggregate of individual testimony; as such, the researcher has a broader perspective than any of the individual participants. While the participants are viewed as experts of their own experience, it can be argued that their perspective is narrow compared to that of the researcher, whose view is that of

all the participants. For this reason, it seems inappropriate to ask participants to comment upon broad interpretation “when they understand truth only through their own lenses” (McConnell-Henry et al., 2011, p. 30). Member checking of interview transcripts, however, remains an important practice consistent with phenomenological inquiry since it aims to preserve the integrity of participants’ voices and arguably strengthens the interpretation by strengthening the certainty of what was said. However, it is important for a researcher to distinguish between the simple correction of interview transcripts and more invasive forms of clarification, where participants may be tempted to modify, recant, or embellish their original testimony.

Perhaps the best way for researchers to increase the academic rigour of their work is by leaving “a trail of evidence” (Rabiee, 2004, p. 657) during analysis, so that others can retrace the process of interpretation. The objective of such retracement is not to establish validity or reliability³, but rather justifiability of interpretation (Auerbach, 2003). In general, the analysis of focus group data must be guided by the principle that the quality and characteristics of participant interaction affects data (Carey, 1995; Rabiee, 2004), and that data is very much a product of “synergy of the group interaction” (Rabiee, 2004, p. 656). Various types of interaction are possible between group members, including non-verbal. Kitzinger (1994) categorizes verbal interactions into complementary and argumentative types, and draws attention towards divisive exchanges as particularly rich in meaning, when “people are forced to explain the reasoning behind their thinking” (p. 113).

While the interaction between and among participants is a defining characteristic of focus groups, Carey (1995) recommends that researchers record “an appropriate description of the nature of the group dynamics ... for example, heated discussion, a dominant member, little agreement” (p. 488) to assist with content analysis and interpretation. Therefore, observational notes which describe the interaction between group members are an important ancillary source of

³ Reliability and validity are metrics which provide evidence of objectivity, and are therefore inappropriate in qualitative work, dominated by subjectivity and interpretation (Auerbach, 2003).

data and provide evidence to support analytical conclusions. Such non-verbal aspects of the interaction may provide clues as to how individual responses have been influenced or adjusted. During the focus group interview, I captured many such discussion characteristics on video tape and in the notes made by an outside observer.

Bracketing

Husserl's (1931) original conception of phenomenology was as a scientific approach to philosophical questioning, with a goal of developing a new theory of knowledge. Central to this theory was a desire to observe phenomena directly, in their pure form and not as they appear, constructed through the typical habits of human perception. Husserl (1931) described such 'direct seeing' as "not merely sensory seeing of experience, but seeing in general as the primordial presentive consciousness of any kind whatsoever" (as cited in Gearing, 2004, p. 1430). Thus, to understand the essence of a phenomenon, the goal of phenomenological inquiry, it is necessary to "look beyond constructions, preconceptions, and assumptions (our natural attitude)" (Gearing, 2004, p. 1430), holding these elements of previous experience in 'brackets' the same way that mathematical terms are temporarily separated in equations for later processing (Gearing, 2004).

Recently, many studies have addressed the lack of consistency and detail in the definition of bracketing, a condition which has led to considerable confusion amongst researchers in how to implement it, substantiate its effect, or to follow interpretations which claim to include it as part of their analysis. In other cases, the lack of clarity has led some researchers to treat bracketing in a superficial, mechanical, or uninformed manner (Fischer, 2009; Gearing, 2004), while others seem to follow "their own conceptualization of bracketing" (Gearing, 2004, p. 1432). Setting aside the fundamental philosophical division between Husserlian followers who believe that bracketing is useful and Heideggerian followers who reject it outright as both impossible and undesirable within qualitative inquiry (Tufford & Newman, 2010), there exist many variables within its implementation. The long list of 'things to be bracketed' include: beliefs and values; thoughts and

hypotheses; biases; emotions; assumptions; preconceptions; and presuppositions, including personal history, prior knowledge, relevant cultural connections, experiences, and prior academic reflections (Hamill & Sinclair, 2010; Tufford & Newman, 2010). Tufford and Newman (2010) caution against treating the elements within this list as a “homogenous group” and remind practitioners that not all the listed elements can be accessed or processed by researchers in the same way or to the same degree.

All of this ‘sanitizing’ leads to a question of what bracketing is really trying to achieve, and also leads directly into the nature of qualitative inquiry as well as the division between Husserlian and Heideggerian views on bracketing. At the heart of both of these points lie the topics of subjectivity, objectivity, interpretation, and their respective measures of justifiability, reliability, and validity. The practice of bracketing attempts to eliminate, or substantially reduce interpreter bias, and to “mitigate the potential deleterious effects of unacknowledged preconceptions related to the research” (Tufford & Newman, 2010, p. 81), which seems to imply an underlying goal of reducing subjectivity while increasing objectivity in the researcher. In other words, bracketing seems to be an attempt to show evidence of researcher objectivity, where subjectivity should be the intent; to somehow separate the researcher from the phenomenon in a way similar to quantitative, positivist inquiry. Where phenomenology calls for the researcher to experience a phenomenon first hand, bracketing seems to be pulling in a different direction.

This apparent tension can be resolved by re-examining the intent of bracketing. Fischer (2009) plainly states that “bracketing is not for the sake of gaining objectivity but rather of acknowledging our engagement in the development of consensual (but always evolving) understandings of our research phenomena and processes” (p. 583). This says nothing of eliminating subjectivity. Auerbach (2003) offers further clarification by calling for a distinction between justified and unjustified use of subjectivity:

... it is not justifiable [for a researcher] to impose his own subjectivity in an arbitrary

manner, that is, in a way that is not grounded in the data. Unjustifiable use of subjectivity is, in effect, interpreting data based on the researcher's prejudices and biases, without regard to the participants' experience. (p. 83)

Thus, bracketing is meant to make a researcher's subjectivity appropriate to the inquiry. It should be made explicit so that the interpretation becomes justifiable, rather than 'valid' or 'reliable'. For any qualitative inquiry, many interpretations are possible; the extent to which those interpretations are generalizable or transferable depends upon how well a researcher can strip away irrelevant personal characteristics which influence the way data is collected, analyzed, and interpreted (Auerbach, 2003). The justifiability of an interpretation depends on its transparency, specifically that a researcher document the steps they took during analysis, as well as disclose any potentially influential factors. Bracketing helps researchers achieve this by acting as a filter, allowing reasonable subjectivity to pass while blocking or limiting baseless subjectivity.

Implementation of Bracketing

A common criticism of bracketing is that it is difficult for a researcher to substantiate its presence and thus, for a reader to rely upon interpretation which depends upon it. Any researcher who wishes to implement bracketing in their research will also have to decide: (a) at what point in their research process the bracketing should begin, and how long it should be sustained; (b) if there are any phases of the research project which should not be subjected to bracketing; (c) whether or not the participants should also engage in a process of bracketing; (d) how to create evidence of bracketing or otherwise substantiate their claims of having engaged in bracketing (Tufford & Newman, 2010; Hamill & Sinclair, 2010).

Before discussing practical aspects of implementing bracketing, it is perhaps important to state that any methods, first and foremost, ought to reflect an attitude of bracketing. As qualitative

researchers, it is perhaps most important to adopt a stance which opens our minds to participants' experiences and allows our appropriate subjectivity to shape subsequent interpretations. Our implementation will undoubtedly be imperfect, but any efforts we make towards bracketing will enhance and present our interpretive efforts as honest. Hamill and Sinclair (2010) present a 'thumbnail sketch' of the qualities most representative of such an attitude; at the top of this list are 'curious' and 'reflective'. Even if we are not able to fully implement bracketing in our research, honest curiosity restores our awareness to an unencumbered state, even if we have prior experience with the phenomenon. On the subject of curiosity, LeVasseur (2003) states:

... in some essential way, we do bracket prior understanding when we become curious.

That is, we have to assume that we do not know or understand something in order to attain the philosophical attitude. When we begin to inquire in this way, we no longer assume that we understand fully, and the effect is a questioning of prior knowledge. (p. 417)

This seems to say that as long as we are honestly curious about researching a particular phenomenon, we have already begun the process of bracketing.

According to Hamill and Sinclair (2010), the second leading desirable characteristic of a "bracketing researcher" (p. 18) is to be reflective, which offers researchers an excellent opportunity to create evidence of the bracketing process. By keeping a reflective journal, a researcher may explore their own connections to the phenomenon, and keep track of how their thoughts, ideas, and all other 'bracket-able' artifacts change as the research progresses. Keeping a journal can be part of a researcher's larger practice of leaving a 'trail of evidence' by which other researchers may follow the logic of the interpretation (Fischer, 2009; Hamill & Sinclair, 2010; Tufford & Newman, 2010). Thus, adopting a reflective attitude not only helps a researcher implement bracketing, it also increases the rigour of the research project by providing a justifiable interpretation of the data analysis. Other recommended methods of generating evidence of

bracketing include theoretical, methodological, and observational notes made during data collection and analysis, notes made by an outside observer during data collection (Tufford & Newman, 2010), and participant feedback on transcripts, analysis, and interpretation (Hamill & Sinclair, 2010).

Chapter Four: Results

The focus group participants were eager to share their experiences and perspectives on implementing undergraduate group work projects. Prior to attending the interview, I received prepared answers from Avril, Brian, and Chris. While the four participants each represented distinct faculties, an interesting pattern emerged during the analysis whereby Avril (women's studies) and Daphne (social work) often shared similar views and likewise Brian (engineering) and Chris (business). Within this pattern, the 'social science' participants, Avril and Daphne, generally valued group work for its ability to create, develop, and enhance current relationships within the classroom. By contrast, the technical participants, Brian and Chris, valued group work most as 'career simulation' and for the development of employable group skills. The following sections are organized by themes derived from the focus group interview and prepared answer data sets. Theme 1 explores two assumptions related to professors' use of group work as a teaching tool. Theme 2 discusses how contextual dependencies shape group work implementation.

Participant Backgrounds

Avril, a veteran professor in the Faculty of Sociology, Department of Women's Studies, at Lakehead University was an enthusiastic participant during the focus group, and provided detailed, thoughtful responses in her prepared answers. She actively engaged with other participants during the focus group interview (especially with Brian) and often respectfully explored divergent views without prompting. In general, her responses were grounded in social justice, particularly on topics related to professor-arranged groups made on the basis of student data. She was generally critical of the O.F., especially of its recommendation for professors to arrange groups. Many of her statements reflect a clearly nurturing disposition towards her students.

Brian, a veteran professor in the Faculty of Engineering at Lakehead University, was

perhaps the most vocal participant in the focus group. While his contributions included significant testimony of past efforts with group work implementation, they were often presented in an uncompromising, “black and white” manner. During exchanges with other participants, Brian was always respectful, though somewhat less receptive than Avril. He was openly critical of the O.F. in both the focus group interview and in his prepared responses, particularly about the idea of having students sign group work contracts. Although he agreed with the idea of professor-arranged groups, he disagreed with the recommendation made by the O.F. that they be heterogeneously arranged based on student achievement.

Chris, a relatively new professor the Faculty of Business Administration at Lakehead University, offered thoughtful point-form responses in his prepared answers, and was somewhat reserved during the focus group interview. He seemed reluctant to interact freely with other participants, but answered questions directed to him. In general, his responses reflected a nurturing, though somewhat detached, stance towards his students.

Daphne, a veteran professor in the School of Social Work, Faculty of Health and Behavioural Sciences at Lakehead University, did not submit prepared responses. She was also the least active during the focus group interview.

Theme I: Trusting the group to teach

This theme explores two main assumptions related to the idea that without significant involvement by professors, participation in group projects teaches students valuable skills, and encourages them to engage in cooperative learning activities. Since the respondents also reported that such skills are highly valued by potential employers, the respondents’ typical ‘black box’ treatment of group work, i.e., entrusting it to do important work without demonstrating detailed knowledge of processes, renders these assumptions as ‘high stakes’. The assumptions that will be discussed are as follows:

1. That participation in group projects will result in the acquisition and development of

employable ‘group skills’;

2. That group projects create the conditions where students will engage in, and benefit from, positive, interactive cooperative learning activities such as collaboration, negotiation, experience and perspective-sharing, synergistic learning, knowledge co-construction, elaboration, and relationship building.

The follow is an overview of the nature of participant responses. Detailed analysis, including transcript excerpts follows in later sections.

Participants rationalized their use of group work most often by pointing to its capacity for skill development. Participants who represented technical faculties (engineering and business) presented group work as ‘career training’ and ‘career simulation’, and as something which equipped students with raw skills for working successfully with people in group settings. Participants who represented social science disciplines reported how group work enhanced relationships and helped to develop a sense of community within their classrooms. The idea that group work is connected to the development of employable skills contains two embedded assumptions, outlined by Mutch (1994) in this way: “... that forms of group work in higher education are, first, modelled on the patterns encountered in working life and second, will prepare students for such patterns” (p. 50). While the participants consistently presented a vision of group work as career preparation, they were divided over their beliefs about such ‘patterns of working life’ and the relative valuation of different skill sets. Such differences are explored in more detail in Theme 2, which discusses how various contextual dependencies shape the expression of group work.

In general, the participants seemed to use group work as an experiential activity, and the learning objectives seem to align with the careerview⁴ of their respective disciplines. For example,

⁴ Careerview is a term which I have coined. Similar to worldview, careerview encompasses a person’s assumptions, beliefs, values, judgements, theories, and other ideas related to a given career. Thus, an engineer’s careerview might include the idea that engineers work in a demanding, task-oriented, profit-driven environment,

the ‘technical’ participants, Brian and Chris, reported using group work as simulation training to build practical, employable skills suitable for, and oriented towards task-completion, whereas the ‘social science’ participants, Avril and Daphne, used it to reinforce the social justice ideals commonly associated with their fields. The utility of group work to deliver course content seemed to be a secondary objective to the participants, displaced by this experiential aspect. However, the potential of the group to ‘teach’ experientially seems also to have obscured the role of the professor; participants generally described the group process as one which ‘took care of’ skill development without their direct involvement. Once students entered into the group work ‘learning space’, participants seem to defer to its process, trusting that cooperative learning would take place and that students would later emerge, somehow enhanced. Although the participants provided details of various group assessment strategies, none of their descriptions included assessment of group skills.

Responses. The nature of the participants’ responses seemed to align with their faculty orientation. While all of the participants suggested, in general, that group projects helped students to develop employable group skills, the ‘technical’ professors focused on skills that help ‘get things done’ (task and goal-oriented) while the ‘social science’ professors promoted community-building skills. I believe that such differences represent the kind of contextual dependencies which shape the group work phenomenon and renders its different expressions. This topic will be discussed in Theme 2.

During the focus group interview, the participants most often described such skills only in general terms, such as “getting along with others”, “learning to work in groups”, and “learning to work together” without providing details of how the process of group work develops the skills, or

whereas the careerview of a social worker may include ideas of social justice, compassion, and community.

the extent to which such skills are developed. Several interpretations of generic skills are possible, depending upon context. For example, “learning to work together” can reflect either a harmonious spirit of cooperation within a group, or can refer to group members learning to overcome conflict and carry on. The ambiguity with which such skills are presented does, at times, suggest a lack of clarity surrounding the goals of group work. The only place where specific group skills are mentioned is in the prepared answers provided by Brian. However, despite several references to group work being an accreditation requirement for engineering and business graduates, professors from those faculties did not elaborate on which specific skills are demanded by industry accreditation. Instead, technical professors pointed to the potential complexity of group work assignments as valuable ‘simulation training’. While it may be true that collaboration enables students to engage with more complex problems, it is unclear whether group work is actually enhanced by complexity itself, or whether the opposite is true.

The first assumption within Theme 1 is that participation in group projects and group membership will result in the acquisition and development of ‘group skills’, relevant for students’ future employment. I have subdivided this assumption to demonstrate how respondents (a) believe that group work delivers skills; and (b) that such skills are the same ones valued by industry. The following excerpt is representative of similar testimony, and reflects the ‘generic’ conceptualization of group-derived skills held by the participants:

Interviewer: What are your reasons for assigning group work?

Chris: One is that because it’s a business course. People will work in teams when they finish, so you want them to develop *the ability to work with others* [emphasis added].

Here, Chris made a direct connection between participation in group work and skill development. Note that the ‘skill’ is defined as only as “the ability to work with others”, without further details. Daphne related the experience of a colleague who is responsible for hiring technical staff at a large

corporation in the United States:

... when he first started, he was so focused on their technical skills. Now he realizes, when he interviews people, the most important thing is not necessarily what they know, but *how well they'll get along in a team*. And he's really influenced me [emphasis added].

In a similar style, Brian offered the following, taken from two places in the interview:

... the major objective of group work is for people *to learn how to get along with people* that they wouldn't necessarily have chosen ... that's what they're going to be faced with when they start working [emphasis added].

... they self-choose their groups ... when they do assignments, when they prepare for exams. Throughout the year, they're working in groups. If we let them choose the same group, what are we doing differently? What's the purpose of the group project?

Both excerpts make reference to the objective of group work. In the first excerpt, he stated that group work is about overcoming unfamiliarity and about changing behaviour; in the second, he repeated the idea while rationalizing his method of arranging groups and, in so doing, defined the role of the professor as one to enhance the potential of the group to teach. Despite his assertion, he did not provide details to explain how the tension created by unfamiliar groupings enables new learning. It is interesting to note, too, that elements of this participant's careerview are expressed quite clearly in these excerpts. To him, engineering graduates will regularly be working with people they don't choose, implying students need to learn flexibility and adaptability. In the following excerpt, Brian expanded on this implication and showed how the generic skill, "learning to work together" can be interpreted as 'overcoming conflict':

... so now is the opportunity to work with people that they don't know, and who may have different working styles. And they have to adapt to that, and – very often it results in conflict. And then they come and see me, and say, "Well, can you solve my conflict?" and I tell them, "No, because this project is as much about the

technical aspects of it as learning to work together. So you guys are going to have to figure it out” ... we welcome the conflicts

Here, Brian ‘defers to the group’ to complete the skills lesson; this clearly reveals his belief in its effectiveness to teach, and reveals his beliefs about his own role: the group is the teacher, the ‘black box’ from which students emerge, improved and skilled. He is merely the one who ‘sets the controls’ on the box and provides the ‘inputs’ (i.e., the students). This concept of the group as a ‘black box’ is one not only held by the participants; even students seem surprised by the things which happen to them as a result of the group experience. Brian, again casting himself outside of the group experience, portrayed the skill development process of group work as almost magical:

... what I’ve observed is that in groups where you have students who are academically at the bottom, sometimes one or two of them have the ability to be leaders, and then they discover that, being in the group. And they actually end up doing a very good project. And they surprise themselves.

It is difficult to establish the extent to which the skills identified by the participants are the same ones valued by employers, partly because of the generic expression of skills by the participants, and partly because the industry skills are never specifically identified or described. Brian and Chris both stated that group work experience is a condition of accreditation for their respective disciplines and, consequently, has become a formal program requirement in their faculties. Despite this fact, the specific skills demanded by accreditation are never mentioned, which may suggest that accreditation bodies accept group work as a singular phenomenon, as a universally appropriate training tool, and also assume the efficacy of its ‘black-box’ nature. Most of the references to industry requirements made by the participants are speculative. For example, Chris explained how the increased complexity afforded by group projects simulates career work:

Group projects are wider in scope and more complex than what I can assign to individual students. They are closer to what graduates can expect when working in industry.

Later, he describes the reciprocal relationship that exists between complexity and group settings. Although a group project allows for increased complexity, this same complexity necessitates the group:

... because it's a group project, you can assign, for example, a case assignment that is more complex and more involved than would be reasonable for one person to do.

In his prepared answers, Brian referred to this same relationship in his description of how typical industry projects demands group approaches to problem solving:

Our students will be involved in group projects when they work in industry ... By realizing group projects, students simulate to some extent the kind of environment that they will encounter when they work in industry.

The phrase 'to some extent' is an important acknowledgement of the limitations of group work to deliver adequate or authentic 'simulation training'.

Avril questioned Brian's speculation about career group work culture, specifically his assertion that employees have little control over the assignment of group members:

... in a way, though, I want to step back and say, "Are we actually modeling the labour force?" And I've had lots of jobs out there. Some of them are group, some of them aren't. A lot of us do teamwork in academia for research, but a lot of that gravitation in my fields is 'who I like working with' ... so, there is that element of both, you're right, Brian, that you have to learn to get along with people and it's not always going to be expertise that's going to be critical to the work you're doing. We also make choices, and part of that decision-making is, "Who do I have a compatible working model with?" If you're co-writing an article, "Who's actually going to get their piece to me on time?" you know, and "how is that going to work out?" So, I think this sense that we sort of randomly end up in the labour force, and that we're always working in a team basis with people that we don't know or we don't have control over, doesn't necessarily reflect all of our labour market experiences. So I'm not sure that for me, that's a good enough rationale.

Similarly, Daphne described her experiences of finding group partners in academia:

... in our academic environment, I tend to do team research with people that I enjoy working with, and with whom I have similar interests.

These excerpts are important because they provide evidence that professors are indeed speculating about potential career conditions. Such speculations may include interpretations and misinterpretations of accreditation requirements. For example, are professors satisfied with only vague ideas of group skills instead of basing their programming on research (e.g., consultations with industry and accreditation leaders)?

The second assumption embedded within Theme 1 is that students will engage in, and benefit from, positive and interactive cooperative learning activities during group work projects. I identified three subthemes within this topic, including participants' descriptions of: (a) community and relationship-building activities; (b) pedagogical activities specific to groups; and, (c) synergistic effects.

The participants made many references to interactions that sound like social constructivist activity, such as, 'the students learn from each other' and or 'share experiences' and in this way present cooperative learning as a unique form of pedagogy. However, such interactions seemed to be valued more for their ability to initiate, develop, and enhance relationships with – and within – the groups, and to create what the participants describe as "a better classroom dynamic", than for their ability to facilitate learning. Although group work, from this perspective, seems to focus on 'learning about each other' (relationship development) rather than 'learning from each other' (course content), the participants present the idea that a community-oriented classroom is a better environment for learning course content, and that the efforts are therefore worthwhile. The following excerpt from Avril combines both of these elements. She explained how the experiential aspects of group work enhance learning while developing the community within her classroom:

I would say for me, that my purposes for doing it are based more on the pedagogical philosophy of peer learning – that part of what happens in the group

process when you hear from other people, and learn from other people depending on the experience that they bring to the classroom. And I think, in particular, for teaching courses with a strong social justice framework, it bridges learning between students who may come from very different standpoints or very different backgrounds. So you have to learn to connect, and find out what's important for each learner.

Avril also described how group projects help her to develop relationships with the groups, and enable her to fulfill her role as a nurturing educator by communicating encouragement and acknowledgement to groups:

Group projects build a better classroom dynamic overall. The projects also allow me to see the diverse strengths of my students – some are very visually oriented, others more textual, some have strengths in reviewing and summarizing literature reviews, others in creativity. Group work helps to ensure that I am acknowledging their diverse strengths in grading and also in terms of ongoing professional development and skills building for students.

She clearly defines her 'outside nurturing' role with respect to the group. The acknowledgement she provided helps her students realize the value of group work; they see how diversity of ability and experience combine to build a community within the classroom.

During a discussion of what Oakley et al. (2004) describe as undesirable 'divide and conquer behaviour' (DCB) within groups, the participants reported some of their own encounters and experiences with it. At first, it was not clear how they viewed DCB, or whether they saw it as a threat to cooperative learning; while the details some participants gave of their group projects point to an expectation, and even the necessity of DCB, others described their efforts to 'catch' it and portrayed it as antithetical to the spirit of group work. In his prepared answers, Chris referred to DCB as evidence of a non-cooperative group:

Some groups complete the task without actually engaging in 'teamwork'. They divide the work and then assemble it at the end.

To this participant, then, a 'team' is one which completes tasks together, with an end product

created through homogenized, synergistic effort. Componentized group products are, in his view, evidence of non-cooperative effort. During the interview, he presented DCB as something students ‘try to get away with’; their attempts are ‘blatant’, implying shameless, bold behaviour, and it takes ‘good’ students to cover it up:

Interviewer: Do you think this ‘divide and conquer’ behaviour is easy to spot as a professor? Are you aware of it?

Chris: Well, with the good students it’s harder to see. But with the students who aren’t as good, who try it, it’s blatantly obvious ... there are different fonts [group laughter], because ... you know? There are obvious indicators ...

In the above excerpt, DCB is clearly presented as a behaviour contrary to the objectives or spirit of group work. Later, Chris expanded on this concept, casting DCB as antithetical to the central definition of a group which he defines as ‘group process’:

So from a group perspective, *there was no group process*. That they got together and said, “You do this part, you do this part, I’ll do this part, you do this part”, brought it together, merged it into one file, put a cover on it, and handed it in. So *it undermined my process learning objective* [emphasis added].

In some cases, he described how submissions sometimes provide direct evidence of non-collaboration:

We have the same thing, where you have ... somebody says, “Well, you do the problem definition, you do this part of the research, and I’ll do the recommendations.” And the recommendations are solving a problem that wasn’t identified.

Other participants explained that they fully expected students to divide the group assignment and considered such behaviour both normal and even necessary for successful completion of group assignments. Avril explained the consequences of trying to complete group work in a congregational setting:

Interviewer: So you're saying that you don't always have the expectation that they'll meet around a table and really 'collaborate'?

Brian: No, and it can be damaging, as well. For example, I've had students who thought that team work was to all meet at the library and try to write the same text. And they wouldn't get past the first sentence, because they'd all be arguing about whether the verb is the right verb, and they'd spend an hour writing a sentence. So I tell them, "in fact, *team work is not that*. It's: you meet, you decide what the tasks are going to be, how you distribute your tasks. Then you all go home and do your own work, then come back and share the work, and say, 'what do we do now?'" [emphasis added]

His view of group work is that the cooperative effort between group members should be limited to task organization and collaboration following task completion. The spirit of group work, in his view, is one of collaboration and task-sharing within the experience of group membership but without having to meet the condition of congregation. Avril refined this view and asked the question, is DCB really even a problem?

And what she [Oakley] refers to as 'divide and conquer' in the sense that people have discrete jobs. You have an over-arching conversation ... "you do this piece, you do this piece, you do this piece", there's a coordinator, and hopefully the summary meshes. And that is real 'problem-based working' in a lot of work environments. That's called 'team work'. So I think it depends on what the purpose of the assignment is, and what you're trying to get them to do, as to whether it's really a problem or not.

Thus, if students are cooperating, organizing themselves, and collaborating intelligently, then clearly they are engaging in a 'group process'; the group persists beyond its actual meetings and the work individuals do is done as part of a group effort.

Daphne described collaboration between group members as a marker of assignment authenticity, and also identified her role in conditioning projects to be ones which truly necessitated the group:

I only try to do group work when the end result is only something that could only come out of a group, rather than just artificially putting people together to do

something that could equally be done individually – otherwise, I think it does become more artificial. But if you really think up an assignment, or the project is one that really takes input from a variety of people, then you have a true collaboration. It does take time, though. I've made mistakes, and learned from them. You know, where they could have just as easily done the project individually and I say to myself, "Don't do that again! I've got to think this through."

However, DCB is not always handled appropriately; participants described the 'wrong' kind, where students submitted assignments that clearly reflected a lack of coordinated effort or communication. In these cases, DCB provided the participants with reliable evidence of non-collaboration in groups.

The way in which the participants all spoke about assessment, including their efforts to determine individual contributions and encourage accountability revealed a latent belief that project tasks will be divided and that group products will be assembled from discrete components. None of the participants expected groups to function as singular 'composites' of their members. This suggests that DCB is, after all, an inherent part of the group work phenomenon; the division of tasks is a natural, obvious, and appropriate strategy for groups so long as it is handled in a collaborative way.

Throughout the interview, only rarely was there any specific description of pedagogic mechanisms active within group work. As with the topic of employable skill development, most references to pedagogy were of a generic form; for example, 'students learn from one another' or 'share experiences'. However, one of the core rationales for group work is the idea that it is synergistic, that is, that a group's output (effort, learning, product, or experience) is more than the simple sum of the individuals' contributions. However, synergy was often presented by the participants as an unreliable, unpredictable 'visitor', perhaps similar to a writer's muse. A synergistic group experience seems also to be viewed as a reward for the hardships and extra effort of group work, and something Chris was relieved to see happen:

It allows the students to learn from each other and to contribute a perspective to a larger project, and hopefully the intention in assigning groups is that there will be that synergy that occurs ... I have heard students complain, at times, that they are having to do this group work, and it really comes to ... is the process cost greater than the synergy that would arise? So the effort that it takes to work in a group, is that greater than ... the outcome, you know? So if it's really five individual assignments, and they're all working on the same thing, then ... that's a problem. And I think the students pick up on that and they get frustrated.

It's not clear, however, how synergy is detected or known to have occurred within group projects.

Participants did not discuss this topic in sufficient detail to allow interpretation.

Theme II: How contextual dependencies shape group work implementation

Theme 2 explores the correlation between implementation choices professors make when assigning group work, and contextual dependencies which exist to shape the group work experience. I have chosen to use group formation as a representative example of such implementation choices since it is a topic well-grounded in the data and one which forms a major part of the O.F. Many other aspects of group work implementation could be discussed, including choices of assessment strategies, assignment products, the amount and type of support a professor chooses to provide during group work, and learning objectives, each of which have significant influence over the way group work is experienced by students. Group formation is an important example to examine because it appears to be a largely unexamined practice with significant pedagogical consequences for students, and seems to show a strong correlation to (a) the way professors perceive and conceptualize their students; and (b) professors' role definitions of themselves.

In this chapter, I present participants' descriptions of their experiences with group formation, including their testimony, rationales, arguments, observations, and ideas. These descriptions, along with my interpretation, form the 'textural description' component of phenomenological description as outlined by Moustakas (1994). In Chapter 5, I provide an

interpretation of participant responses to populate the two contextual dependencies described above, and an analysis to show how these dependencies directly influence decisions the participants make related to group formation; this content provides the complementary ‘structural description’ component. Taken together, the textural and structural descriptions create a rich description of participants’ experiences with a portion of the phenomenon of group work.

In general, the topic of group formation is one of the best-represented in the transcript and prepared answers. Although the participants offered diverse views, each had significant contributions to make. Interestingly, none of the participants agreed with group formation advice presented in the O.F. Avril favoured self-selection and also honoured requests for individual work; Brian firmly endorsed professor-arranged groups based on academic achievement; Chris allowed self-selection but made reference to a possible departmental policy shift towards professor-arranged groups; Daphne chose to use self-selection but made mention of arranging mature students into existing groups.

Possible group formation strategies include: (a) self-selection, where students are free to pick their own group mates according to their own selection criteria, and; (b) professor-arranged groups. Within professor arranged groups, several important choices exist: (b.1) arrangements made randomly; (b.2) arrangements made on the basis of a criteria (e.g., marks, or student schedule). Furthermore, within criteria-based groupings, professors can opt for: (b.2.1) homogeneous, or (b.2.2) heterogeneous groupings (Figure 2).

Each of these possibilities can influence the overall experience of group work for students, and can have significantly different pedagogical effects. For example, the O.F. advocates for type (b.2.2); professor-arranged, heterogeneous groups made on the basis of academic achievement, and argues that when strong students are mixed with weaker ones, both benefit from a natural mentoring which occurs. By contrast, Brian argued that such practices often result in the marginalization of weaker students, undesirable division with the group, and conflict; for these

reasons, he believes that homogenous groupings are much better. Selection method does reflect the dominant power within a classroom, but it is not easy to say whether one method is ‘student-centred’ or ‘professor-centred’. While it may be argued that self-selection offers students more freedom, a professor-arranged group made with careful consideration may prove to be one better-suited to the student, offering a greater pedagogical payoff with mitigated conflict potential.

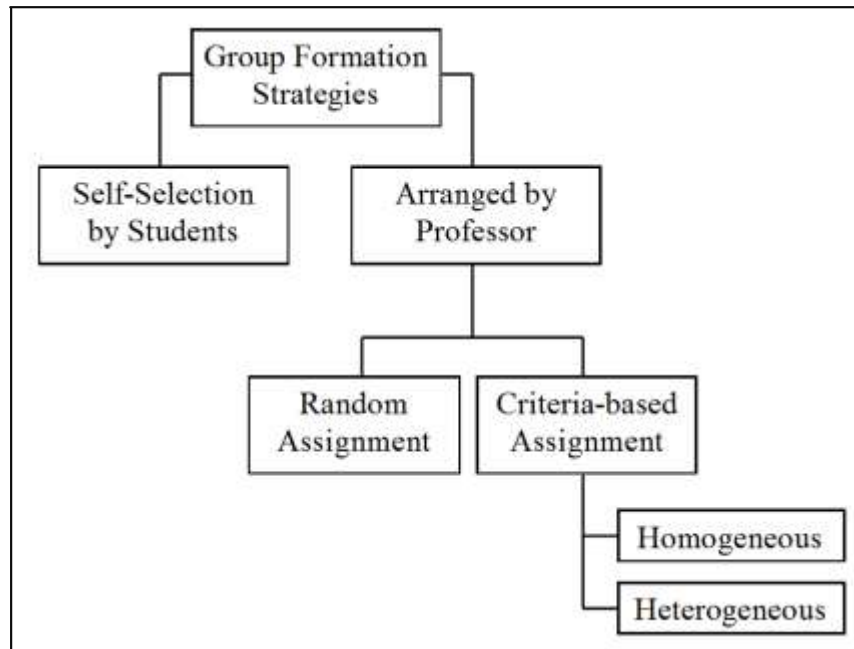


Figure 2. Group formation strategies.

Responses. Three of the participants regularly reported using the self-selection method of group formation. The primary rationale that Avril offered for self-selection was a discomfort with the alternative of arranged groupings. While she acknowledged the imperfection of self-selection, she viewed arrangement criteria as presumptuous and potentially damaging to the student. In this excerpt, she described the structured approach she uses for self-selection; while students are free to choose, she monitors the outcomes and observes their motivations:

So, can I ask a question, though, because I have a different philosophy of this. I let them self-select. And sometimes the students who perceive of themselves as the stronger students cluster together. For good and for bad, that plays itself out. But

other times they group together by friendship, or interest, or other things they have in common. And I worry that I'd be determining the long-term marks by pre-selecting them.

Clearly, she felt that students who were arranged into groups according to their marks would feel they had been 'labelled', trapped by their previous levels of achievement. It is not immediately clear from her testimony, however, whether such ability-arrangements influence and bias her assessments, or whether she is concerned about the emotional impact of such groupings on her students. The concept of 'ability-labelling' is referenced twice in this excerpt; in the first instance, she talked about students who 'perceive of themselves' as stronger. While she suggested that she often holds a different and more accurate perception of those same students, she allowed them an opportunity to test their own perceptions through the group experience: 'for good and for bad, that plays itself out'. In this way, she removed herself as 'judge'; a position she would hold if she had arranged the groups.

In later testimony, Avril offered a sophisticated argument against arranged groupings which directly conflicts with the recommendations of the O.F. She argued that any criteria used for such arrangements represent presumptions about a student's identity that may not be accurate, and may cast the professors as insensitive, invasive, or arrogant. In this excerpt, she explained how a professor's choice of criteria can affect the overall dynamic of a group:

One of the things that struck me in the Oakley article ... is that there was sort of an assumption that there's one aspect. So – groups based on gender, groups based on race. But in my field, intersectionality is really important. The fact that there's many aspects to who we are ... so on this campus, for example, I wouldn't want to necessarily separate a First Nations student and say, "You should be in a First Nations group", because that student may be more interested, by virtue of age, connecting to an older group, by virtue of interest connecting to other groups, and I think there's a way we can 'other' people, and actually make those differences bigger than they are, if we separate them out. ... I'm really loathe to label them on the basis of what might to me be some sort of visible sense of who they are, because I don't know what that's going to do in terms of the dynamics of comfort in the group ... to assume that we know what aspect of their identity is most important to them is very problematic from my perspective.

Chris used self-selection for different reasons. For him, lack of direct access to student records, larger class sizes, and migration of students within his interdisciplinary program make arrangements based on marks impractical. Self-selection, then, is largely described by Chris as a default method, rather than one based explicitly on student needs or pedagogy. In this excerpt, he explained a possible departmental shift in policy:

... I have historically allowed people to ... assign their own groups, but we had a discussion in our faculty ... about group work and developing our program for assessing contribution in group work, and we've struggled with this issue of identifying individual performance. We talked about the assignment of groups and allowing people to assign groups, and I think where I came after that discussion was that, "Yeah, I should be assigning groups ", because when people get jobs, they will not have the luxury of picking who will be also assigned to a project.

Thus, his primary motivation for arranged groups was that it will prepare students for such practices in their future careers. However, he explained his current preference for self-selection in this way:

I like to give students the ability to self-direct, and to seek out people that they are interested or they think they could learn something from, or, more practically, because their schedules align.

Such reasons are clearly student-centred, although they do suggest a fairly disconnected relationship with his students.

Earlier, Avril expressed concern over how groups arranged on the basis of marks may bias assessment, particularly for students with lower marks. However, Brian insisted upon such ability-arranged groupings and described the effect it has:

... but what you said about some students gaining confidence in group work – I've observed that, too. And, in fact, this is why we pair students who are the weakest together, and the medium together, and the best together. Because what I've observed is that in groups where you have students who are academically at the bottom, sometimes one of them has, or two of them have the ability to be leaders,

and then they discover that, being in the group. And they actually end up doing a very good project. And they surprise themselves.

Thus, he described a situation where lower-achieving students seem to thrive when the influence of stronger students is removed. The comment that “they surprise themselves” suggests that students do internalize achievement ‘labels’; in this case, providing them an opportunity to work with others of similar ability offers them a chance to re-examine those labels. When Avril offered her arguments against homogenous ability groupings, it is important to remember, as sensible as it may seem, that her testimony is reasoned conjecture rather than a description of experience. Since Brian reported ‘what I have observed’, this is direct experiential description and thus must be considered as more valuable for the purposes of phenomenological inquiry. However, in chapter 5, I examine ways in which both of these strategies – self-selection, and arranged homogenous ability groupings – may be perfectly suited to their respective disciplines. In the O.F., the authors advocate for arranged heterogeneous ability groupings, arguing that weaker students will benefit from mentoring provided by stronger students, and that the stronger students will benefit from the elaboration and explanations involved in the tutoring they provide. Avril confronted this recommendation directly:

If you put them with strong what will happen is that the strong ones will start by not trusting them. And then, because they [the weak students] have low confidence then will go along with that. And they’ll be asked to be doing tasks that are not the most interesting tasks, not the most difficult tasks. So they will not get this opportunity of gaining confidence.

This explanation matches my own experiences as an undergraduate engineering student; our workload was so heavy that rarely was there any time to spend tutoring fellow group mates. In cases where group mates were not performing, it was far more likely – and efficient – for stronger members to take on additional tasks, even if it led to later conflict, than for them to worry about equalizing competence within the group. Similarly, Brian described the intense scheduling

pressure his students face and listed this as a leading problem for them:

Interviewer: In your opinion, what are some of the problems most commonly reported by students, related to group projects?

Brian: The difficulty to find the time to do it, and in the face of everything else they have to do. Our students very often take six or seven courses, and those courses are given assignments once a week and there are exams, and so ... whereas with a project, they are more free, right, to organize themselves, so around exam time they tend to leave the project alone, and then they get late ... some of them tend to procrastinate.

As a final argument against self-selection, Brian claimed that the competitive culture of engineering and the intense pressure to perform often tempts students into cheating on assignments, and that networks of ‘cheating teams’ form unless the professor arranges the groups:

I mean, in engineering, and maybe this is the case in other disciplines, too – the objective of most students is to get the degree so they’ll get the job. At all costs. And this means, for many of them, cheating. And the people who cheat, they typically form teams of ‘cheating’, and they have their own system. And when we’ve met employers and asked them, “What is the most important characteristic of somebody when you think about hiring them?”, they say, without exception, “ethics”. Is their ability to be ethical, of not taking short-cuts.

His last statement, that employers value a prospective employee’s ethical character as the “most important characteristic” seems to counter what the participants often repeated as a core rationale for group work: that it developed “group skills”, primarily the “ability to work with others”. It’s not clear, however, how moral development is meant to happen through arranged groups; his testimony seems to point only to the power of arrangement to avoid cheating.

While Daphne did not directly recommend or report using arranged groups, she explained how heterogeneous groupings and diversity can create fertile conditions for creativity and innovation:

... the mixing up is important, I think. I come from a background of complexity theory, and, of course, one of the principles of complexity thinking is that diversity creates innovation ... it provides for the potential for a more transformative learning environment.

It's not clear, however, whether her idea of 'mixing' is one based on academic achievement, as Brian advocates, or on other criteria. In earlier testimony, she referred to social justice research and "age old studies in diversity" which suggests that her idea of mixing may include socially-constructed identity markers such as race, ethnicity, and able-ness.

Elsewhere, Daphne discussed the role of mature students in group work, and how she arranged them into groups of younger students:

I have so many mature students in my classes. They come back to school with this wealth of knowledge and information. And I find that if can put the mature students together with the younger students, good things happen. The younger students grow, and the mature students get a chance to be the teacher.

While this approach differs from the academic achievement-based heterogeneous ability groupings reported by Brian and recommended by the O.F., it does show how a 'hybrid' solution is possible. Daphne seemed to supplement self-selection with her own judicious positioning of mature students. Avril offered a similar view of the role of mature students, and the potential they hold for skill-development within groups:

I came to university as a mature student, and I know I had a lot of experiences in some ways, but lacked other kinds of skills at that point. And one of the things that I see now is that group work allows students with different kinds of skill sets to connect to the class, and to feel good, and to further develop their skills. So, often with mature students, for example, they can play a really important role in groups with, you know, time management skills and some of the amount of work that might take place in the group.

Chapter Five: Analysis

Following the methodology of empirical phenomenology proposed by Moustakas (1994), the goal of this chapter is to develop rich textural and structural descriptions which combine to describe certain essential aspects of the phenomenon of undergraduate group work. The textural descriptions aim to capture the variation in participants' experiences, while the structural descriptions represent context which may have influenced the textural descriptions (Creswell, 2006). The essential aspects of the group work phenomenon which I describe are the assumptions related to the themes identified in Chapter 4. These assumptions provide the reader with a deeper understanding of the group work experience from the perspective of the professors who participated in this case study. Such descriptions, although based on experiences of the particular participants, may serve as a helpful or inspirational guide to readers wishing to develop their own group work practice.

I have chosen to use research by Oakley et al. (2004), introduced in Chapter 2 as the 'Oakley Framework' (O.F.), as a theoretical lens to guide the interpretation of data and act as a basis of discussion and analysis. The O.F. provides a useful framework for analysis since it discusses undergraduate group work on the basis of scholarly research, the observations of the authors, and student feedback collected as part of the research. Furthermore, the O.F. is analytically relevant because its tenets closely align with the experiences reported by the current research participants, and therefore addresses elements of themes, which I have identified on the basis of their testimony. By comparing elements of the themes introduced in Chapter 4 against the O.F., I describe aspects of the group work phenomenon, in particular, various assumptions surrounding group work. Theme 1 deals primarily with the assumption that group work experiences teach skills. Theme 2 addresses a common conception of group work as a 'singular' phenomenon rather than a highly context-dependent one with multiple expressions.

In general, I find the views expressed by the current research participants as more

sophisticated and pedagogically realistic than the corresponding views offered by the O.F. In some instances, both the participants and the O.F. present thoughtful arguments; in others, both groups offer thin, unconvincing, or obscure testimony. In places where there is little common ground between participants and the O.F., I use my own experiences as a means to interpret the data or to evaluate the O.F.

Analysis of Theme 1

In Theme 1, I presented two assumptions, namely, (a) that participation in group projects will result in the acquisition and development of employable “group skills”; and (b) that group projects create the conditions where students will engage in, and benefit from, positive, interactive cooperative learning activities. Textural and structural descriptions of these assumptions are developed in the following discussion.

While participants most often rationalized group work as career training and as an experiential skill-developing exercise, they only referred to such skills in generic terms, such as “learning to work together”. This trait was common to participants from both technical and social science disciplines, despite the claims by both groups that the employable skills they attributed to group work were in demand by industry. Interestingly, the O.F. makes little mention of the idea of group work as skill development and presents it in nearly identical ways to that of the participants. For example, when arguing for professor-arranged groups of heterogeneous academic ability, Oakley et al. (2004) state:

We then explain that when they join a company, they will not be asked whether they prefer to work alone or with others, and they will not be presented with a list of all the employees and asked who they’d like to work with. What will happen is that they will be assigned to groups of coworkers by their supervisor, and their job performance rating may depend more on *how well they’re able to work with those people* than on any other ability they may have. We conclude by telling them that since that’s what they’ll be doing in their careers, they may as well start learning how to do it now [emphasis added]. (p. 11)

A person's 'ability to work with others' is widely accepted as a trait valued by employers (Crebert, Bates, Bell, Patrick, & Cragolini, 2004; Davies, 2009). And yet, the limited, generic description of this skill presented in the O.F., and matching that of the participants, undermines its value and obfuscates its meaning. As described in Chapter 4, such a description is open to diverse interpretations, including "working in a spirit of cooperation and congeniality" and "working despite conflicts and differences". As such, the transferability of this generic skill must be called into question; if each group experience is unique, then surely the ways in which people report to have 'learned to work with others' can only be applied in limited ways to future groups. This is especially true of skills learned in simulation environments, which is how Brian described group work in undergraduate engineering. It is worth considering how anyone can substantiate such a skill; is evidence of past success, in unique circumstances valuable? Is it the best evidence available?

One useful way to analyse the worth of this generic and oft-quoted skill is to compare the perspectives of a prospective employer with that of a prospective employee. As an employer, I could interpret an employee's claim that they learned to "work well with others" through group experiences as: (a) evidence that they had to learn this skill and it therefore was not innate, rendering them less attractive compared with other candidates for whom such aptitude was natural, well-developed, and experiential; (b) that they may have had only positive group experiences in the past and therefore not have been truly "tested" in this regard; (c) that they may have been a habitual "hitchhiker" in groups where fellow group members lacked the assertiveness to confront them. If it is (a) or (b), I would be nervous about including such an employee on corporate group projects, afraid that their limited skills were based solely on undergraduate simulations. If it is (c), then this prospective employee is likely not going to be a productive group member, having conflated laziness for active, healthy communication. As mentioned earlier, I may question the transferability of a skill learned experientially in university settings to corporate culture –

especially a skill that is not explicitly defined. Or, on a more basic level, I may question whether or not the employee is conflating theoretical extrapolations based on experiential training with demonstrated, tested skills based on experience.

As an employee, I would likely be unable to substantiate my claims of having such a generic skill in any meaningful way, and I may even be nervous about how it would be interpreted by others. For example, does my ability to ‘work well with others’ mean that I am a ‘yes-man’, or that I compromise too easily, lack conviction or opinion, or stifle my creativity in deference to the group? Could it be interpreted that I cannot function independently, or that I work best only with others and therefore at reduced efficiency when left alone? Or does it mean that I am highly adaptable and flexible, able to be paired with notoriously difficult employees, or willing to take on the unsavoury tasks of the company, ever the ‘good team player’? As is quickly apparent, the number of possible interpretations of this generic skill render it meaningless in its present expression and questionable as a core rationale of group work. Davies (2009) comments that “groupwork is also one of the most expedient ways ... of ensuring that students develop transferable skills for life-long learning (teamwork, leadership, project management skills, communication skills). This has largely been in response to industry demands” (p. 564). The pervasive nature of this sentiment suggests that a refined definition may help to clarify the objectives of assigned group work.

The participants advanced career skill development as a main objective of group work. In Chapter 4, I presented an excerpt to this effect from Brian:

... the major objective of group work is for people to learn how to get along with people that they wouldn’t necessarily have chosen ... that’s what they’re going to be faced with when they start working.

In other places, the participants offered similar views. In the O.F., the authors do not directly refer to the objectives of group work, instead relying on the assertion that, “cooperative

learning has been repeatedly shown to have strong positive effects on almost every conceivable learning outcome” (p. 21). This attitude implies that group work will universally enhance most learning situations. In this regard, participants did not offer conclusive supportive statements; Avril regularly uses group work but maintained an attitude receptive to requests for independent work:

... I encourage them to try to do the group because I think there are many benefits to the group process, but I will respect their sense that an individual project is going to work better for them.

Brian, as mentioned above, defined a major objective of group work as learning to work with strangers. In other places, he seemed adamant that group work is the best kind of simulation training for engineering students.

Central to Theme 1 is the idea that professors place trust in the group experience to teach skills and to provide a learning environment, enhanced by cooperation, where students can learn course content. From this perspective, group work is seen as a form of student-centred learning because it emphasizes the potential of student interactions to construct knowledge, rather than relying on a professor as the knowledge source. The shift towards a student-centred philosophy necessitates a reconsideration of the role of the professor; as students become more active “knowledge constructors” and less passive “knowledge recipients”, the professor too must change in a way which supports such social constructivist pedagogy. In fact, the main message presented in the O.F. relates to this idea – that professors who implement group work must engage with their students in specific ways, likely very different from the ways demanded by traditional lecture delivery, to ensure that the students learn the skills necessary for successful project completion:

Simply putting students in groups to work on assignments is not a sufficient condition for achieving these benefits, however. Unless the instructor takes steps to assure that the groups develop the attributes associated with high-performance

teams, the group learning experience is likely to be ineffective and may be disastrous. (Oakley et al., 2004, p. 21)

When asked about their reasons for using group work, participants' descriptions of their own roles during its implementation differed considerably. Avril presented herself as a nurturing, supportive professor who worked to provide a student-centred model of group work. To her, the group experience is a worthy teacher, and in her prepared answers she provided evidence to support her view:

I think students benefit from seeing topics/issues from a variety of perspectives and group projects can enhance that. Students generally also enjoy the more hands-on experience of working out aspects of a group presentation or project together – many say that it feels like more 'engaged' learning for them. I also find that group projects encourage students to get to know one another and can enhance their respect for one another – they see that their peers bring different skills and life experience to the table and can learn from that.

In this excerpt, all of her reasons clearly reflect a student-centred philosophy. The students benefit because the group offers 'more engaged learning', perspective-sharing, 'hands-on' experience, and a chance to build a community with their classmates. When students resist group work, she honours their requests, but takes the time to explain the benefits of group work to them. In this regard, she can be seen to be deferring to the group, 'selling it' as a superior experience for her students. Considering the nature of her discipline, a group work model which includes a nurturing, supportive professor seems to be entirely appropriate for her students. Although it could be argued that such group experiences are career 'simulation training', she shapes them more as places where the values of her discipline, rather than skills, are cultivated. Research by Orr (2010) supports this nurturing approach to group work, connecting it to increases in risk tolerance:

We need to explore ways that innovative risk-taking can be fostered in group contexts ... so that group members gradually feel safe enough to participate fully and ultimately take risks. If students are afraid to take risks because they feel they

cannot rely on their fellow students, then ... they will revert to individualistic learning approaches. (p. 308)

Brian deferred to the group experience as well, but it has an entirely different ‘feel’. A key excerpt from the interview transcript perfectly encapsulates his approach:

... so now is the opportunity to work with people that they don’t know, and who may have different working styles. And they have to adapt to that, and – very often it results in conflict. And then they come and see me, and say, “Well, can you solve my conflict?” and I tell them, “No, because this project is as much about the technical aspects of it as learning to work together. So you guys are going to have to figure it out ... we welcome the conflicts”

Instead of the supportive community portrayed by Avril, to this participant the group experience is a ‘tough’ environment where students have to learn their skills and lessons ‘the hard way’. He gave the impression that he could easily solve their conflict, but his refusal to do so suggests he values the experiential potential of the group to teach. It is not clear in what ways he conditions the group experience to be pedagogically effective in this regard; however, the approach seems consistent with this participant’s careerview of engineering, a topic explored in more detail in Theme 2. In writing about the realities of life after graduation, Johnson et al. (1991) seem to echo Brian’s comments when they state that adaptability is as important as technical skill in the modern work world:

Schools teach that work means performing tasks largely by oneself, that helping others is cheating, that technical competencies are the only things that matter ... the internationalization of problems will increase, and no clear division will exist between domestic and international problems. Students need to learn the competencies necessary to manage interdependence, resolve conflicts within cooperative systems comprised of parties from different countries and cultures, and personally adapt to rapid change. (p. 31)

In the ‘Frequently Asked Questions’ section of the O.F., the authors suggest a “three before me” rule, where students must show evidence of having consulted three different resources

in an effort to solve any problem before they ask a professor for guidance. To justify this recommendation, the authors report that, “an important function of cooperative learning is to reduce the common student attitude that the instructor is the only source of truth and wisdom” (Oakley et al., 2004, p. 20). It seems odd that a such an objective would be listed as an ‘important function of group work’ since it appears to be focused more on deflecting work from the professor and encouraging student resourcefulness than on facilitating cooperative group work experiences. Also, the ‘three before me’ strategy does not necessarily encourage students to work together to solve their particular problem. By contrast, even though Brian’s direction to his students (to ‘figure it out’) seems lacking in empathy, he achieves the same ‘deflection’ while supporting a cooperative learning model. In his model, the students rework and reshape their group experience to solve problems, whereas with the O.F. ‘three before me’ strategy, the students may well end up working independently. Avril’s ‘nurturing model’ and Brian’s ‘tough / simulation model’ of group work are examples of how the participants defer to the group to teach in ways more sophisticated and pedagogically reasonable than those suggested by the O.F. While they offer students a totally different group work experience, both participants are clearly trusting the group experience to deliver skills and teach course content.

The capacity for increased complexity of projects was offered as both a rationale for group work by the participants, and as evidence that it offered authentic career simulation for students. By increasing assignment complexity, some participants reported that they were able to cover course material more quickly while giving students a feel for ‘real life’ group projects. Within this rationale, however, lies a serious flaw. The complexity afforded by group work invariably demands that the task be divided by the group, and, in many cases, individual students are left having engaged with only a portion of the content. Where the intent may have been to expose students to more content, the opposite is often the result of increased assignment complexity. Of course, professors may remind their students of their responsibility to review the others’

contributions. The O.F. deals with this problem in the most perfunctory manner:

Some teams like to divide and conquer, parceling out different parts of the assignment, completing them individually ... on tests and/or when you report on your work, you will be examined individually on every aspect of the assignment, and your grade will depend in part on how well you understand both the part that you mainly did and all the other parts. Before you hand anything in, go over it in detail and make sure you're ready for that examination. (Oakley et al., 2004, p. 14)

In Chapter 4, I discussed the issue of 'divide and conquer' behaviour (DCB) and proposed that such division of labour is a natural part of group work. The expectation that students will complete group projects in congregational cooperation is unrealistic, and as Brian described, potentially damaging. However, group work which is rationalized as cooperative, 'enhanced pedagogy' while, at the same time, accepted as a distributed exercise is either logically flawed or dishonest. Is it sufficient, as Avril suggested, to characterize a group project as 'cooperative' if only its organizational aspects remain collaborative? Since the participants expect – and encourage – students to divide tasks, then they must, to some degree, also accept that the majority of task engagement is independent.

Even if a student was conscientious enough to review their group members' contributions, the quality and characteristic of that learning is fundamentally different from the experiential learning done through the group. If we consider that in a typical group of four students, each one does one quarter of the work independently and three quarters of the work in 'review mode', what is the true worth of the assignment for that student? Of what benefit is the increase in complexity if the majority of the 'bonus' material is left for them to review? Furthermore, if we consider that three quarters of such material is generated by classmates and not the 'expert' professor, does it not follow that such material is of a potentially lesser value? The O.F. appears to acknowledge this issue of incomplete content exposure by simply reminding students of their responsibility to review all group materials.

Thus, it may be argued that as the complexity of group assignments increases, so too does the pressure to divide tasks; likewise, with an increase in task division comes a decrease in interaction, a decrease in cooperative potential, and, ultimately, significantly diminished group benefits. This view is supported by Feichtner & Davis (1984) who describe typical strategies employed by students faced with increasing workloads:

...in an attempt to minimize these logistical problems, most groups will divide up the work in an appropriate way. For example, if a five member group is asked to analyze five cases, the vast majority will agree to assigning one case to each member, thereby virtually guaranteeing that students will experience many of the negative aspects and few of the benefits of working in groups. (p. 64)

Complex group assignments may well offer authentic simulation, but they work against the cooperative learning objectives reported by participants. If an increase in group project complexity leads to more students becoming dependent on their group mates for content review, then they are left with more theory exposure and fewer opportunities for experiential, first-hand participation in social knowledge construction – the original intent of group work.

Participants often described how their students engaged in positive cooperative activities during group projects, which I categorized into three areas: (a) community and relationship-building activities; (b) pedagogical activities specific to groups; and, (c) synergistic effects. In Chapter 4, I discussed how participants reported that group work helped to develop a sense of ‘community’ within the classroom, which the participants felt was conducive to learning. However, a curious division exists between the ‘technical’ and ‘social science’ participants over this topic.

Brian (engineering) and Chris (business) made no explicit mention of the word ‘community’. On the surface, this appears illogical because the work commonly associated with each of these disciplines most definitely depends upon collaboration. Rarely do engineers work independently on projects; likewise in business, commerce, trade, and contracts all require

interaction. It is possible then, that these participants use other terms to describe community-like situations and interactions. The essential nature of such interactions, however, seems to be about dependency rather than the positive, nurturing aspects commonly associated with ‘community’. Business and engineering are typically cast as competitive work environments and it appears that the group work assigned in these disciplines reflects a set of values oriented towards competition, intended to provide students with an authentic simulation of the dependent networks they will face in their careers. In his prepared answers, Brian explained why engineering students need to learn not only to be dependable, but also to depend upon their colleagues:

... by realizing group projects, students simulate to some extent the kind of environment that they will encounter when they work in industry. *They learn that their own technical skills, although necessary, are not sufficient for success.* They learn that communication among group members, effective division of work, collaboration, professionalism, project management skills, leadership, and reliability in attending group meetings and meeting deadlines are all essential for success [emphasis added].

Thus, group work in technical faculties helps students learn a version of community which is about survival, a ‘means to an end’. It’s not meant to be fun, pleasurable, or to develop relationships – but strictly to align and mix the best possible resources according to job requirements. The way in which Brian described arranging his groups reflects this ‘all business’ attitude; his comment that “we welcome the conflicts” reveals two important things: (a) a value statement, about engineering as a career, that ‘with dependency comes friction’; and (b) that conflicts create potent learning opportunities when they are properly contextualized and managed (Wells et al., 1990). In his view, the ‘best’ group is the group best arranged to get the job done. As such, the things students in technical faculties learn about community during their group work are meant to simulate future community-like situations.

By contrast, Avril (women’s studies) and Daphne (social work) both mentioned ‘community’ explicitly. To them, community seemed to be a welcome by-product of group work

which served two main functions: (a) pedagogical: it created a nurturing, supportive classroom environment which enhanced student learning; and (b) social justice: it addressed and reflected the social justice values associated with the respective disciplines, especially that of inclusiveness. As such, the importance of community derived from social sciences group work is rooted in the present – for the purposes of enhancing learning during coursework, rather than providing career simulation or skills training. Participants described how their group work projects allowed the students to be heard, to feel included, and that their experiences were valued. Avril made a connection between the pedagogic potential of group work and the promotion of social justice values during the interview. Responding to the earlier question, ‘why do you choose to use group work?’, she said:

I would say for me, that my purposes for doing it are based more on the pedagogical philosophy of peer learning – that part of what happens in the group process when you hear from other people, and learn from other people depending on the experience that they bring to the classroom. And I think, in particular, for teaching courses with a strong social justice framework, it bridges learning between students who may come from very different standpoints or very different backgrounds. So you have to learn to connect, and find out what’s important for each learner.

It’s clear that community, for Avril, is an essential part of her present, day-to-day classroom.

Only indirect reference to ‘community’ is made in the O.F. During their presentation of group formation strategies, the authors address the idea of alienation and recommend that professors do not arrange groups in ways which isolate ‘at-risk’ students, especially in the first two years of university. They explain that in the final years, students need to be exposed to potential isolation they may face later in industry when working groups may be arranged with no regard of social justice. Although this appears to be a sensitive treatment of an important social justice issue, Avril explained how such arrangements can easily ‘backfire’ on professors. In her prepared answers, she said, that “to assume that we know what aspect of their identity is most

important to them is very problematic from my perspective.” This is another example of how the participants’ experiences reflect a more sophisticated understanding of the group work phenomenon than is presented by the O.F.

The only other indirect reference to community in the O.F. appears when the authors explain their rationale of professor-arranged groups of heterogeneous academic ability. In their view, such heterogeneous groups will naturally engage in mutually beneficial peer mentoring; the weaker students will benefit from tutoring supplied by the stronger ones, and the stronger ones will benefit from elaboration and teaching activities. Thus, their argument is that heterogeneous groups will spontaneously develop inner, nurturing communities. Brian, defending his practice of homogenous ability groupings, explained that the ideas presented in the O.F. are not only unrealistic but ultimately counterproductive to objectives of developing community:

For several years, we made groups of heterogeneous abilities (in the same way as Oakley recommends), and we observed negative consequences. First, the best students in the group (who usually also have the strongest leadership skills) take the project in their own hands and leave only the easiest or least important tasks to the weaker students because they don’t trust them. Second, the weak students are often happy with this because they can then rely on the strong students to get most of the project done and get them a good mark.

The lack of trust Brian referred to causes the weaker students to be alienated; not only do they suffer from lack of community and group membership, but they lose out on pedagogical benefits of cooperation. Although Brian’s practice of homogeneous grouping is meant to simulate the ‘toughness’ of typical engineering work groups, it is actually pedagogically wise; he reports that such homogeneous groups allow reluctant leaders to develop, and for many students to “surprise themselves”. His ideas of community may not focus on immediate pedagogical needs of his students, but they are – again – more sophisticated than those presented by the O.F.

The primary criteria suggested under the O.F. for group arrangement is academic achievement, measured by previous course marks or grade point average. Although such data are

to be volunteered by students, Avril felt that such practices were “invasive and inappropriate”. Additionally, she felt that this practice created dangerous preconceptions in the minds of professors. In an interesting exchange, Participants A and B shared their views on this idea of ability-labelling and preconceptions:

Avril: ... when you arrange the groups by what you see as their capability coming in, is that how they come out in the final marks? What do you find?

Brian: Actually, no. It's quite interesting. The weakest group, academically, did the best presentations last year. Twice in a row. Now, they didn't do the best report, and we adjusted things by giving them an easier project. We do take those things into consideration – it also allows us to decide on the project topic and the difficulty of the project topic based on the capabilities of the students that are doing the projects so that everybody gets a chance to actually improve.

While Avril views data collection as a threat to community, she appeared genuinely interested in Brian's experiences and practice. Rather than simply arguing that his practice yielded positive results, however, Brian demonstrated that certain adjustments are necessary for such outcomes. The ‘adjustments’ he referred to are examples of the influence professorial involvement has on the academic outcomes of their students. His comment that ‘everybody gets a chance to improve’ is itself an inclusive statement symbolic of his community sensibility, and shows that arranged groupings do not necessarily negate such community values.

With respect to the concept of group synergy discussed in Chapter 4, it is interesting to note that in the O.F., the term is used indirectly to distinguish between teams and groups: “with a group, the whole is often equal to or less than the sum of its parts; with a team, the whole is always greater” (Oakley et al., 2004, p. 13). This is similar to what Chris said:

The issue of interdependencies is, I think, critical. And what makes a team a team, and how a group is different from a team ... so they can, technically, piece together work ... and therefore it could just be a collection of people working on the same thing, as opposed to a ‘true team’.

Here, Chris suggested that a team is one which features interdependence and which is somehow different from just a collection of individual contributions. The title of the O.F. is “Turning Student *Groups* into Effective *Teams* [emphasis added]”, and the authors prefer to use the term “student project teams” rather than “group work”. Synergistic effects are rarely considered as a distinguishing feature between teams and groups, except in the case of certain specialized disciplines which explicitly differentiate the terms. In common usage, the terms are essentially interchangeable until they are considered in a comparative way.

Analysis of Theme 2

Theme 2 is an exploration of the ways in which professors’ perceptions shape and influence their choices related to group work implementation. I have chosen to label these perceptions as ‘contextual dependencies’ because they function in a way similar to that of dependent variables in quantitative research; the expression of group work as a phenomenon, and thus the way it is offered up for experience, depends upon and is influenced by the state of these contextual dependencies. The specific perceptions I have chosen to focus on are: (a) participants’ perceptions of their students as learners and as individuals; and (b) participants’ definitions of their roles as instructors. Despite their reasonably strong grounding in the data, however, these descriptions of professors’ perceptions are heavily, if not entirely, dependent upon interpretation. As such, the two contextual dependencies presented in this chapter form the ‘structural description’ component of phenomenological description as outlined by Moustakas (1994), and complement the textural descriptions provided in Chapter 4. While many of these descriptions the participants provided are essentially conjecture and opinion, especially those relating to the perceptions of their students, the experiential basis of the descriptions makes them a valuable part of phenomenological inquiry and worthy of interpretation.

In general, the participants appear to shape their implementation of group work according to the way they think about their students, and the way they think about themselves. For example,

if a professor thinks of her students as individuals with valuable contributions and also believes that her role is to create opportunities for the construction of knowledge based on shared perspective, she is more likely to encourage group formation through self-selection. Alternatively, a professor who thinks of his students as indistinct, or lacking in valuable experience or perspective, and who sees his role as their manager is more likely to feel that arranged groups are best. Rather than attempt to ‘prove’ that such a connection exists, however, my objective is to present a discussion of relevant context which appears to influence the expression of group work as a phenomenon. This structural description will help develop a more complete understanding of group work; specifically, it will illustrate that group work is not a singular phenomenon but one that is experienced differently depending upon the states of many possible contexts.

Responses. An analysis of participant responses can provide indirect evidence of how they perceive their students and define roles which, in turn, define relationships. In general, Avril viewed her students as individuals and worthy colleagues; mutual respect and freedom of choice are defining elements of their relationship. There are many examples in the transcripts which illustrate her sensitivity towards their needs as learners, her support and acknowledgement of their uniqueness, and her general respect for them. In her prepared answers, she provided the following as a rationale for assigning group work:

Group projects build a better classroom dynamic overall. The projects also allow me to see the diverse strengths of my students – some are very visually oriented, others more textual, some have strengths in reviewing and summarizing literature reviews, others in creativity. Group work helps to ensure that I am acknowledging their diverse strengths in grading and also in terms of ongoing professional development and skills building for students.

Her desire to formally and publically acknowledge her students’ strengths is strong evidence of how much she values them as people. To her, group work is a tool that helps to equalize the visibility of different learning styles, and a way to celebrate diversity and creativity. In this way,

she casts herself as someone who creates conditions for the exchange of diverse perspectives and the construction of knowledge. Her approach to group work assessment reveals the healthy respect she affords her students. She described her efforts to deliver compassionate, yet effective criticism – not always an easy balance to strike for a professor:

For such class presentations I do feel the need to be well prepared myself to fill in and around the topic if a presentation falls short. One of the aspects of that is being able to thoughtfully valorize what has been done well and add/critique in a way that doesn't diminish students' sense of self. Some presentations/projects are just poorly done but it is also important not to embarrass students in those moments. I try to give constructive feedback in the public space and then talk more with individual and the group privately.

The compassionate element of her assessment practice and her reference to “sense of self” demonstrates her nurturing attitude towards her students. She wants them to improve, and she wants to protect their personal development. In research directed towards educators new to cooperative learning, Vermette (1994) recommends that instructors “avoid rewarding ‘no effort’ individuals or punishing conscientious individuals in dysfunctional teams; grade wisely, judiciously and compassionately” (p. 260). Avril's approach clearly is aligned with this thinking. The patience she extends to students when they search for group mates revealed a strong belief and trust that they will overcome initial reluctance to initiate contact with others:

But part of it is their choice and their willingness to start making connections with other people, and I'm really loathe to label them on the basis of what might to me be some sort of visible sense of who they are.

Avril reported a collegial relationship with her students:

I find that I learn from my students, in a variety of ways ... I've learned about technology – they're way more media-savvy than I am ... I think from just their creativity and their engagement with technology, it's something that can help me in terms of my teaching skill, as well. So, I think that's quite exciting to see ... students are engaged with different kinds of information ... and have different ways of accessing information, and I think that encourages me to move from what might

be my more conventional model of ‘the library’ and ‘books’ ... to other kinds of sources.

Through her descriptions of how knowledge is exchanged, Avril revealed her attitude that her students can also be teachers themselves. She incorporates their knowledge in reflection of her own practice; the acknowledgement that their methods are not only different from her own but also progressive reveals a willingness to accept change. The students are free to pursue methods of presentation which are suited to their knowledge rather than hers. The fact that she allows them this freedom does suggest a genuine interest and sense of collegiality with her students, clearly visible in the following explanation:

I do encourage communication, I do regular check-ins with them, I tell them that if they are experiencing problems I’m happy to meet with them and work through some strategies with them.

In a separate excerpt, she made a direct reference to her students’ character:

In my experiences the students are remarkably honest. Some of them feel quite guilty about the fact that they didn’t contribute as much as they should have done. Maybe it comes out when they actually have to put it down on paper. And some of them, I think, err on the other side of attributing an awful lot of work to other people, but you can figure out by the way in which they talk about a learning experience, just how much they’ve engaged with it or not. So, that’s good for me.

This testimony seems to reflect a positive perception of character and one that suggests trust.

Although it is possible to conclude that some of her students act dishonestly by ‘covering’ for their lower-contributing peers, she recognized the spirit of such actions as essentially cooperative. By detecting a subtle and complex emotion such as guilt, Avril demonstrated a keen awareness of her students as individuals. This speaks to the depth of the relationship she maintains with them. Her use of “who we are” in testimony presented earlier is an inclusive statement; her students are colleagues; their individual complexity is as valuable as hers.

In the following excerpt, she assumed a defensive stance for her students, dismissing the

recommendations of the O.F. while demonstrating a keen awareness of her student's motivations for selecting group mates. In this way, she presented herself as their 'protector', fiercely proud of the way they accommodate and care for each other:

I do not assign groups and I find the suggestions in the [Oakley] article of assigning groups based on skill level (assessed as previous marks) and characteristics of groups both invasive and inappropriate. My students form groups more on the basis of familiarity and friendship than perceived sense of skill and they are often welcoming of students who are less strong. Certainly some will choose group mates based on a sense of who will work hard and be reliable and I think that should be their choice.

Her use of "my students" is an assertive statement; she knows them well and protects their freedom to choose.

Avril's choice of self-selection appears to be one which is influenced by her perceptions of her students and of her own role. Her comment that criterion-based arranged groups are "both invasive and inappropriate" suggests that her choice of the alternative is one based on its suitability to her ideas of how her students learn, their value as individuals, and her role as their nurturer.

By contrast, Brian held a very different view of his students; to him, they are merely technicians rather than autonomous engineers, lacking in initiative or uniqueness. He believes that they need prescriptive direction, with fewer choices and more structure; these are all things which he provides for them:

So for example, this morning we went to the library and I organized a meeting with [librarian name] to teach them how to do a literary search using the databases and all that. So that the students actually get the information, otherwise they wouldn't know.

His language is fairly 'black and white', and reveals an attitude that his students lack initiative in problem solving, and must be explicitly shown things. Later, he explained that this lack of

initiative often gets his students into trouble with group projects:

It seems to me that very often ... group members stop working because they don't know what to do next. So, what I found, in fact, is to be extremely prescriptive in terms of what the reports have to contain. So I tell them, "The first chapter of your report has to deal with that. These are exactly the things that you have to answer. Figures will look like this. The titles will be under it. The title of the tables will be over it. And this is the type of information. This is how the literature review has to be formatted. This is how the reference section has to be formatted." So basically, they just have to fill in the blanks.

This is language that clearly expresses his value of 'meeting expected standards' over creativity; it also carries a tone of mild exasperation and disappointment, of having to spell things out to his students. This excerpt, again, shows the complementary nature of these two primary perceptions: his students need direction, and he provides it. His reference to "fill in the blanks" is strong evidence that he views his students as technicians, not to be trusted or expected to complete work in creative or original ways. It also suggests that he is not particularly interested in such creativity, but only that tasks are completed to a standard; in other words, they will be uniform in appearance, lacking in individual identity, and prepared to specifications. Nowhere in the transcript does he indicate that his students could be teachers themselves, or that their individual perspectives might be useful in knowledge construction; instead, my impression is that he defines himself as the 'standard of knowledge and skill' to which his students will always aspire. In the following excerpt, the interplay between "they have to", "they know", and "we tell them" again reveals a clearly-defined, structured environment. These assertive statements imply a certain logic, that is, 'they know because we tell them'; this is reminiscent of Freire's (1993) 'banking model' of education: "the teacher teaches and the students are taught" (p. 73) and also of behaviourist teaching philosophy:

... in engineering it's very structured, so they know that they have to produce a preliminary report in the middle of October; they know they have to produce an interim report at the beginning of January, they have to produce a final report at the

end of April. They have to do two presentations, one interim presentation at the end of November, one final presentation at the end of March; they know that they have to meet with their supervisor once a week for at least an hour; they know that they have to have their own meetings, and they know all the specific aspects that their project has to cover. We tell them that. We tell them exactly how it's going to be marked, what each aspect of the project will be worth. We tell them how we're going to evaluate the group, how we're going to evaluate each individual in the group. So, we tell them about the formula we use to put together all these various evaluations to come up with a mark for the group.

It is easy to see that Brian was not concerned with what his students' desires may be. Also, there is no indication that his students may have individual identities. In fact, there are many instances where Brian spoke for his students directly. For example:

So, if they were doing that by themselves it would take them five years, or something ... so, they all depend on each other ... it's *absolutely obvious* for them that they have to be in a group. [emphasis added]

...

They know [group work] is coming, they know it's the most important part of their education because that's when they get to put everything together, so usually *they're really excited about it*. [emphasis added]

Without an accompanying sense that Brian knows his students as individuals, as Avril clearly demonstrates, it is difficult to accept such generalizations. In other areas, Brian described his students in ways which can only be categorized as reflecting his disappointment. Without explicit direction and constant supervision, he described how his students are likely to lose motivation quickly:

And typically, it's the common stuff like, students these days spend a lot of time playing video games, watching TV, and they're just not that committed to their work and so they need someone to tell them, "Well, you're part of this group and you just have to do the work, and that's it.

Brian's choice of arranged groups appears to be one which is influenced by his perception of his students as faceless 'technicians' and his own role of 'manager'. Arranged groups appear to

satisfy the requirement for structure and seem to relieve his students of decisions he does not trust them to make in their own best interest:

... the objective of most students is to get the degree so they'll get the job. At all costs. And this means, for many of them, cheating. And the people who cheat, they typically form teams of 'cheaters', and they have their own system. And so if we allow them to keep forming those teams, I mean, the projects are not going to go well, so that's another reason why we assign teams.

In contrast to the direct statements Avril and Brian made about their experiences, Chris' testimony was more general in nature, and somewhat observational – as if he was a third person observer of group work rather than a primary actor within the phenomenon. This generalized characteristic of his testimony made the interpretation of his role identity more difficult. In general, Chris appeared to act in the “background” of group work, rather than in the foreground as a visible, easily identifiable “nurturer” or “manager” figure as Avril and Brian cast themselves. In some places, he seemed to define his role as one of “background consultant”, available to help if the students sought him out:

Interviewer: What happens when students feel equal group marks are unfair?

Chris: They have to identify unequal contribution. They have to agree to the allocation and if they don't agree then they come and see me and we negotiate that. But, otherwise, yeah – it's the same mark.

In other places, however, he seemed to act more as a ‘background investigator’:

And I've over-ridden what they've assigned. Because there are cases where for whatever reason, somebody in the group is marginalized, and they've been excluded, and yes – their contribution wasn't that great, but maybe they didn't have the opportunity to contribute. So, upon investigation, then, yes – I adjust marks.

In many places, Chris admitted to having an incomplete understanding of his students' motivations, behaviours, and experiences with group work. For example:

Chris: I'm not sure ... there could be any number of reasons why procrastination occurs. It could be that they procrastinate about everything, it could be that it's one of their first forays into group work, so they may be procrastinating because they're not really sure what to do. I don't know what the motivation is.

Later, he appeared perplexed about his students' inability to transfer content from his lectures on group dynamics to their group projects:

And it's in the organizational behaviour class classroom where I teach team development, communication in teams, and conflict management. So they're getting that content, but it's somewhat divorced. They haven't integrated it.

As with Brian's descriptions of "they know because we tell them", the above testimony from Chris suggests a Freirian attitude towards teaching and learning, as if to say, "the content has been delivered, so why are they not applying it"?

Chapter Six: Conclusion

This study began, as all research does, with observation. Returning to undergraduate studies twenty years after my first degree, I noticed a pronounced shift towards student-centred learning, particularly the abundance of group work. In almost every course of my Bachelor of Education program, professors assigned at least one major group project, often with learning objectives tied directly to the course curriculum. My experiences with the phenomenon of group work led me to make several broad, personal, and quite subjective observations:

1. On the whole, group work was rarely a positive experience.
2. I often failed to see how the group aspect of the projects had improved my academic experience or my learning.
3. I felt as if the group work reduced my marks and increased my workload.
4. Where group work was intended to develop social skills, I was often left feeling exasperated and frustrated with fellow group members and, in the worst cases, with strained or damaged relationships.
5. I usually ended up doing, or re-doing the work of my group mates in an effort to maximize the group mark, or I took on extra roles such as ‘final editor / document compiler’; or ‘presentation maker’. Such extra work led to feelings of resentment directed towards my group mates and professors.
6. Professors were largely uninvolved with their students during group work. In other words, professors seemed only to assign group work, and assess it.

As a result of these observations, I began to formulate several theories to account for the unsatisfactory results I had experienced. These theories were, on the whole, rather pessimistic and heavily coloured by emotions. Nevertheless, I present them here to document what was for me one of the main benefits of pursuing rigorous, structured qualitative inquiry: that such a research process can, in fact, be healthy. By offering a fresh and large-scale re-examination of group work,

including a formal study of scholarly research and the thematic analysis of testimony drawn directly from invested, experienced professors, this research process has left me with a more informed, and less emotional view of group work. Again, the rawness of my 'uninformed theories' presented here is intended to capture the 'starting point' of my research journey. They are as follows:

1. That professors assigned group work largely without serious consideration of:
 - a. its pedagogical basis;
 - b. the experiences their students would have including the impact it would have on their collegial relationships;
 - c. an implementation plan.
2. That professors assigned group work because it meant less teaching and less marking.
3. That professors assigned group work because it was part of accepted, but unexamined practice.

As the research process began, I refined these crude theories and observations into personal questions which immediately sounded less accusatory and more receptive:

1. What is the pedagogical basis of group work, if any?
2. To what extent is group work an 'examined practice' of professors?
3. How could my group work experiences have been improved?
4. What role did I play in creating such negative experiences?
5. As a future educator, how could I implement group work projects that would be better for my students than those I experienced?

After completing the literature review and conducting research into phenomenological methodology, I settled upon the following research questions:

1. What are professors' experiences with implementing undergraduate group work?
2. What contexts exist to influence or shape professors' experiences with group work?

3. How do the identified contexts shape the experiences?
4. With respect to their experiences of implementing group work, what are professors' general impressions of the O.F.? How does the O.F. compare to professors' typical implementations of group work?

Research

Since all of my research questions were focused on the professor's role, I designed a focus group interview with professors as participants. In order to preserve the integrity of individual perspectives, I designed a separate questionnaire for the participants to complete before the focus group interview. The questions appearing the advance questionnaire were drawn from the interview guide, and were all revisited during the focus group interview. As a result, I was able to compare the "uninfluenced" and "focus group" responses during the data analysis phase. After analyzing the transcripts of the interview, along with the prepared answers the participants supplied, I was able to develop two main themes. Theme 1, *Trusting the Group to Teach*, explores the assumption that without significant involvement by professors, participation in group projects (a) teaches students valuable skills, and (b) encourages them to engage in cooperative learning activities. In other words, assigning and arranging groups meant that group processes would happen automatically. This theme is reminiscent of some of the first concepts which I read about during the literature review, exemplified by Koutselini (2009), paraphrasing Johnson and Johnson (1994), "There is a big difference between simply putting students together in groups to learn and structuring groups of students to work cooperatively" (p. 35), and Johnson (1981) who concurs, "constructive influences on students' achievement, socialization, and development, however, do not automatically result from proximity to other students" (p. 9). Theme 1, ultimately, is about the automaticity professors attribute to group work. As such, it describes a specific way in which professors interact with the phenomenon.

Theme 2, *How Contextual Dependencies Shape Group Work Implementation*, focused on

various contexts which shape the phenomenon of group work. As I analysed the transcripts, I developed an idea that group work was not a singular phenomenon, but one that had various expressions. Initially, I felt that differences in these expressions could be accounted for by the differences in professors' respective faculties. On closer examination, I discovered many potential contextual dependencies including: (a) professors' perceptions of their students; (b) professors' personal role definitions; (c) professors' careerviews; and (d) professors' teaching philosophies. Others undoubtedly exist. Similarly, many dimensions of the group work phenomenon were possible to examine for influence of these contextual dependencies. Following basic principles of qualitative inquiry, I chose to concentrate on two contextual dependencies (professors' perceptions of their students, and professors' role definitions) and one dimension of implementation (group formation technique) because they were the ones best represented in the data. The others, while interesting, would represent only reasoned conjecture without support of data. Theme 2 presented the idea that a professors' choice of group formation technique was influenced by their perception of their students. Rather than establish a correlation between these two concepts, the goal of Theme 2 was to provide a rich description of the essence of the phenomenon, made up of two components: a textural description of participants' experiences with the phenomenon, and a structural description of the context which shaped the participant's experience (Moustakas, 1994).

Theme 1 and Theme 2, when taken together, provide a picture of group work that I describe as "undergraduate group work is a highly context-dependent phenomenon with many embedded assumptions, the outcomes of which are themselves influential on the expression of the phenomenon". In other words, the more professors and students understand about how context shapes their experiences with group work, the more the phenomenon can be tailored to specific objectives and the more effective it can be as a teaching tool. Without such examination, however, group work may continue to be experienced, for some students, as the unpredictable and loathsome thing that it was for me.

Limitations and Future Research

As a case study, this research is limited by the perspectives of its participants. Since it is students for whom the phenomenon of group work has the greater consequence, a phenomenological inquiry into their experiences seems a natural and potent research endeavour. During my graduate studies, I was employed as a graduate assistant and had the opportunity to teach a class of fourth-year outdoor recreation undergraduates. Using the topic of group work, I invited the students to share some of their experiences and theories about group work. The lively answers they provided, and the differences between their descriptions and those of the participants in this study left me with a minor regret that I had not chosen them as focus group participants. While it seems that everyone has something to say about group work, students are, in general, an especially rich data source. Any researcher who wishes to pursue the group work phenomenon from their perspective would have no trouble finding eligible, knowledgeable, and interesting participants.

Some of the contextual dependencies that I considered as part of Theme 2 were, regrettably, not ones well-supported by the data I gathered. Nevertheless, I feel that they are worth exploring in future research. In particular, I feel that a professor's careerview is a topic with significant ties to many aspects of their teaching practice and their teaching philosophy. Unfortunately, the idea behind this new concept emerged during the research process and I was unable to return to ask participants specific questions which would have provided details of their respective careerviews. At one point, Daphne commented on a “fascinating cultural difference” between faculties, and I believe that such cultural differences impact many other phenomena of undergraduate life which, similar to group work, are often considered as static, singular entities.

A further limitation of this case study worth revisiting is the use of a focus group format for the interview. As I described in Chapter 3, focus groups do have a particular effect on participants and there is no way to be sure that the testimony they give is not influenced by the

other group members. Since phenomenological inquiry aims to gather descriptions of the lived experience of individuals, data gathered in social settings may be viewed as somehow ‘impure’ from a phenomenological point of view. To mitigate these effects, I asked my participants to prepare written answers to the most important focus group interview questions in the hopes that the integrity of their personal opinions and experiential descriptions would be preserved through such prior consideration. The side-by-side analysis of their responses led me to believe that this had, indeed, occurred. Future researchers interested in professor perceptions of group work may consider using individual interviews.

In Theme 1, I suggested that group skills were valued by professors but rarely assessed. Since most assessment of group work focuses on content and the quality of deliverables, I feel that research into techniques of group skill assessment would help professors to clarify their learning objectives with respect to this aspect of group projects. In addition, research into group skill assessment may lead to valuable dialogue between industry representatives and their academic counterparts, and help to identify and define group skill sets in concrete terms.

Recommendations

Based on the thematic analysis of this research and upon my own reflections on this topic, I wish to make the following recommendations:

1. That professors who assign group work identify and make explicit to their students the learning objectives for the group project. These objectives should include both content and group skills, and both skills sets should be included in assessment.
2. That professors include, as part of the assessment plan for group work, a reflective component where students can examine the group experience. This reflection should focus on group dynamics, conflict resolution, and other group skill development. A review of such group skills for professors unfamiliar with such group skills would help make such an assignment effective.

3. That professors engage in personal reflection on the impact their perceptions have on their implementation choices. This reflection should, at a minimum, include an examination of the way they perceive of their students, and of the roles they have defined for themselves.

Closing Remarks

In light of this research effort, I feel it is appropriate to revisit the subjective observations and crude theories I advanced to account for my negative group work experiences. What have I learned? How have those initial remarks changed? Above all, my research effort was an attempt to transform my thinking, to re-write the negative perceptions of my experiences, and to perhaps develop a more informed concept of group work that would shape my future practice as an educator. I feel as if the responsibility for those negative perceptions is shared by professors and by me; while I believe that the professors who assigned my group work may have benefited from more examination and a deeper understanding of the pedagogy of group work and how their own perceptions impacted the way I experienced it, I also believe that elements of my own attitude had a large effect on how I experienced group work. In particular, I feel as if the personal standards I rigidly enforced were seeds of conflict with my group mates; their inability to work to those standards caused me to be resentful of them, and often drove me to re-do their work.

Despite this admission, however, I still feel some residual resentment connected to my past professors' apparent inattentiveness. If the 'group skills' discussed in Theme 1 had been part of the professors' implementation plan, such caustic interactions may not have happened. The fact they did occur, and so often, is evidence I choose to uphold that professors do, indeed, assume that students will 'figure things out between themselves' in times of conflict, or that professors are oblivious to such negative interactions altogether. While I do think my attitude has changed and that future group work experiences will be different for me, I maintain that much of what happens during group work projects remains hidden from professors. While they may be avoiding the

‘drama’, however, they are also missing out on witnessing moments of collaboration, cooperation, and skill development and on opportunities to improve their own practice, and the group experiences of their students.

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APPENDIX A: Getting to Know You Form

(If you feel uncomfortable answering any of these questions, you may leave that area blank. However, please complete as much as possible.)

Name: _____

What you would like to be called: _____

Address: _____

E-mail: _____ Grades in (Prereqs): _____

Phone Number: (w) _____ (h) _____

(Optional) Gender _____

(Optional) Ethnicity _____ [African/African-American, Asian/Asian-American, Latino/a,
Native American, White, Other (specify)]

Academic Major: _____

Year of Study (e.g. sophomore, junior, senior, returning for 2nd degree) _____

If returning for 2nd degree, what was first degree in? _____

Do you have a job aside from being a student? If so, where do you work and what do you do?

Why do you want to be a _____ (insert profession)? [or, Why did you decide to major in _____, or, Why are you taking this course?]

What is something about you that is probably not true of other students in the class (for example, an unusual experience, hobby, skill, or interest)

Favorite movie: _____

Favorite music or book: _____

Favorite hobby or sports Activity: _____

What is the most beautiful sight you have ever seen? _____

GETTING TO KNow You (page 2)

Times unavailable for group work. In the spaces below, please cross out the times when you will NOT be available to work outside class on assignments with your group. Mark only genuine conflicts, such as with classes or job responsibilities.

Time	M	T	W	H	F	Sat	Sun
8-9am							
9-10							
10-11							
11-12							
12-1pm							
1-2							
2-3							
3-4							
4-5							
5-6							
6-7							
7-8							
8-9							
9-10							
10-?							

APPENDIX B: Team Policy Statement

Team Policiest

Your team will have a number of responsibilities as it completes problem and project assignments.

Designate a coordinator, recorder and checker for each assignment. Add a monitor for 4-person teams.

Rotate these roles for every assignment.

Agree on a common meeting time and what each member should have done before the meeting (readings, taking the first cut at some or all of the assigned work, etc.)

Do the required individual preparation.

Coordinator checks with other team members before the meeting to remind them of when and where they will meet and what they are supposed to do.

Meet and work. Coordinator keeps everyone on task and makes sure everyone is involved, recorder prepares the final solution to be turned in, monitor checks to make sure everyone understands both the solution and the strategy used to get it, and checker double-checks it before it is handed in. Agree on next meeting time and roles for next assignment. For teams of three, the same person should cover the monitor and checker roles.

Checker turns in the assignment, with the names on it of every team member who participated actively in completing it. If the checker anticipates a problem getting to class on time on the due date of the assignment, it is his/her responsibility to make sure someone turns it in.

Review returned assignments. Make sure everyone understands why points were lost and how to correct errors.

Consult with your instructor if a conflict arises that can't be worked through by the team.

Dealing with non-cooperative team members. If a team member refuses to cooperate on an assignment, his/her name should not be included on the completed work. If the problem persists, the team should meet with the instructor so that the problem can be resolved, if possible. If the problem still continues, the cooperating team members may notify the uncooperative member in writing that he/she is in danger of being fired, sending a copy of the memo to the instructor. If there is no subsequent improvement, they should notify the individual in writing (copy to the instructor) that he/she is no longer with the team. The fired student should meet with his/her instructor to discuss options. Similarly, students who are consistently doing all the work for their team may issue a warning memo that they will quit unless they start getting cooperation, and a second memo quitting the team if the cooperation is not forthcoming. Students who get fired or quit must either find another team willing to add them as a member or get zeroes for the remaining assignments.

As you will find out, group work isn't always easy— team members sometimes cannot prepare for or attend group sessions because of other responsibilities, and conflicts often result from differing skill levels and work ethics. When teams work and communicate well, however, the benefits more than compensate for the difficulties. One way to improve the chances that a team will work well is to agree beforehand on what everyone on the team expects from everyone else. Reaching this understanding is the goal of the assignment on the *Team Expectations Agreement* handout.

! Adapted from R. M. Felder & R. Brent, *Effective Teaching*, North Carolina State University, 2000.

APPENDIX C: Team Expectations Agreement

On a single sheet of paper, put your names and list the rules and expectations you agree as a team to adopt. You can deal with any or all aspects of the responsibilities outlined above—preparation for and attendance at group meetings, making sure everyone understands all the solutions, communicating frankly but with respect when conflicts arise, etc. Each team member should sign the sheet, indicating acceptance of these expectations and intention to fulfill them. Turn one copy into the professor, and keep a remaining copy or copies for yourselves.

These expectations are for your use and benefit— they won't be graded or commented on unless you specifically ask for comments. Note, however, that if you make the list fairly thorough without being unrealistic you'll be giving yourselves the best chance. For example, "We will each solve every problem in every assignment completely before we get together" or "We will get 100 on every assignment" or "We will never miss a meeting" are probably unrealistic, but "We will try to set up the problems individually before meeting" and "We will make sure that anyone who misses a meeting for good cause gets caught up on the work" are realistic.

IR. M. Felder & R. Brent, *Effective Teaching*, North Carolina State University, 2000.

APPENDIX D: Evaluation of Progress Toward Effective Team Functioning

Your Team Name: _____

Symptoms of Internal Meeting Problems	Usually	Sometimes	Hardly Ever
Team meetings generally begin 5-15 minutes late			
Members often arrive late, leave early, or never even show up for the meetings.			
No agenda exists— members simply have a vague notion of what they want to accomplish.			
One or two members monopolize discussion throughout the meeting.			
Members have not read the assignment, performed the necessary background research, or done what they were expected to do. Consequently, individuals are poorly prepared for the meeting.			
With words or by appearance, some members clearly convey that they would rather be elsewhere.			
Members constantly interrupt each other or talk in pairs without listening to the individual who has the floor.			
Issues never get resolved, only put on the back burner until next time.			
No follow-up action plan is developed. Members are confused with regard to what the next step is and who is responsible for performing it.			
The same individual or individuals end up doing the majority of the work. The meetings run on and on and on with little to show for the time spent on them			
Assignments are not completed on time or are completed poorly.			

¹Adapted from Jack McGourty and Kenneth P. De Meuse, *The Team Developer: An Assessment and Skill Building Program*, 2001, John Wiley & Sons, New York.

APPENDIX E: Team Member Evaluation Form

The following evaluation of your team members is a tool to help improve your experience with group work. Its purpose is to determine those who have been active and cooperative members as well as to identify those who did not participate. Be consistent when evaluating each group member's performance by using the guidelines below.

1 – never 2 – rarely 3 – sometimes 4 – usually 5 – always

Name of student being evaluated: _____

Circle your responses.

Has the student attended team meetings?	2	3	4	5
Has the student made a serious effort at assigned work before the team meetings?	2	3	4	5
Has the student made a serious effort to fulfill his/her team role responsibilities on assignments?	2	3	4	5
Has the student notified a teammate if he/she would not be able to attend a meeting or fulfill a responsibility?	2	3	4	5
Does the student attempt to make contributions in group meetings?	2	3	4	5
Does the student listen to his/her teammates' ideas and opinions respectfully and give them careful consideration?	2	3	4	5
Does the student cooperate with the group effort?	2	3	4	5

Based on your responses to these questions, assign an overall rating on the following scale:
 _____(Insert one of the given words.)

Excellent	Consistently carried more than his/her fair share of the workload
Very good	Consistently did what he/she was supposed to do, very well prepared and cooperative
Satisfactory	Usually did what he/she was supposed to do, acceptably prepared and cooperative
Ordinary	Often did what he/she was supposed to do, minimally prepared and cooperative
Marginal	Sometimes failed to show up or complete assignments, rarely prepared
Deficient	Often failed to show up or complete assignments, rarely prepared
Unsatisfactory	Consistently failed to show up or complete assignments, rarely prepared
Superficial	Practically no participation
No show	No participation at all

! Adapted from a form reprinted in B. J. Millis and P. G. Cottell, Jr., Cooperative Learning in Higher Education Faculty, Oryx, Phoenix, 1998.

APPENDIX F: Peer Rating of Team Members

Your Name _____ Your Team _____

Please write the names of all of your team members, INCLUDING YOURSELF, and rate the degree to which each member fulfilled his/her responsibilities in completing the team assignments. *DO NOT LEAVE ANY COMMENTARY BLANK!* Place this form in a sealed envelope, with your team name/number on the outside, and give it to your instructor. The possible ratings are as follows:

- Excellent: Consistently carried more than his/her fair share of the workload.
 Very good: Consistently did what he/she was supposed to do, very well prepared and cooperative.
 Satisfactory: Usually did what he/she was supposed to do, acceptably prepared and cooperative.
 Ordinary: Often did what he/she was supposed to do, minimally prepared and cooperative.
 Marginal: Sometimes failed to show up or complete assignments, rarely prepared.
 Deficient: Often failed to show up or complete assignments, rarely prepared.
 Unsatisfactory: Consistently failed to show up or complete assignments, unprepared.
 Superficial: Practically no participation.
 No show: No participation at all.

These ratings should reflect each individual's level of participation and effort and sense of responsibility, not his or her academic ability.

Name of team member	Rating	Commentary (DO NOT LEAVE BLANK!)
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Your Signature -----

APPENDIX G: Autorating System

1. Determine group project grade.
2. Convert individual verbal ratings from the Peer Rating form to numbers, as follows:

Excellent = 100

Very good = 87.5 Satisfactory = 75 Ordinary = 62.5

Marginal = 50

Deficient = 37.5 Unsatisfactory = 25 Superficial = 12.5

No show = 0

3. On a spreadsheet, enter numerical ratings received by team members in rows.
4. Average individual marks, calculate overall team average, calculate adjustment factors as individual average divided by team average. If an adjustment factor is greater than 1.05, reset it to 1.05.
5. Individual project grade = (team grade) * (adjustment factor).

Example

Team project grade	80							Indiv. Proj. Grade
Name	Vote 1	Vote 2	Vote 3	Vote 4	Indiv. Avg.	Team Avg.	Adj. Fctr.	
Betty	87.5	87.5	75	87.5	84.4	82.0	1.02	82
Carlos	87.5	100	87.5	87.5	90.6	82.0	1.05	84
John	62.5	75	50	75	65.6	82.0	0.80	64
Angela	87.5	87.5	87.5	87.5	87.5	82.0	1.05	84

tKaufman, Felder, and Fuller (2000). This sheet is for instructor to use and is not handed out to students. Adapted from Brown, R. W. (1995). *Autorating: Getting individual marks from team marks and enhancing teamwork*. 1995 *Frontiers in Education Conference Proceedings*, Paper 3C24.

APPENDIX H: Coping with Hitchhikers and Couch Potatoes on Teams

Coping with Hitchhikers and Couch Potatoes on Teams

You will usually find your university teammates as interested in learning as you are. Occasionally, however, you may encounter a person who creates difficulties. This handout is meant to give you practical advice for this type of situation.

To begin with, let's imagine you have been assigned to a combined homework and lab group this semester with three others: Mary, Henry, and Jack. Mary is okay— she's not good at solving problems, but she tries hard, and she willingly does things like get extra help from the professor. Henry is irritating. He's a nice guy, but he just doesn't put in the effort to do a good job. He'll sheepishly hand over partially worked homework problems and confess to spending the weekend watching TV. Jack, on the other hand, has been nothing but a problem. Here are a few of the things Jack has done:

When you tried to set up meetings at the beginning of the semester, Jack just couldn't meet, because he was too busy.

Jack infrequently turns in his part of the homework. When he does, it's almost always wrong— he obviously spent just enough time to scribble something down that looks like work.

Jack has never answered phone messages. When you confront him, he denies getting any messages. You e-mail him, but he's "too busy to answer."

Jack misses every meeting— he always promises he'll be there, but never shows up.

His writing skills are okay, but he can't seem to do anything right for lab reports. He loses the drafts, doesn't reread his work, leaves out tables, or does something sloppy like write equations by hand.

You've stopped assigning him work because you don't want to miss your professor's strict deadlines.

Jack constantly complains about his fifty-hour work weeks, heavy school load, bad textbooks, and ter-

rible teachers. At first you felt sorry for him— but recently you've begun to wonder if Jack is using you.

Jack speaks loudly and self-confidently when you try to discuss his problems - he thinks the problems are everyone else's fault. He is so self-assured that you can't help wondering sometimes if he's right.

Your group finally was so upset they went to discuss the situation with Professor Distracted. He in turn talked, along with the group, to Jack, who in sincere and convincing fashion said he hadn't really understood what everyone wanted him to do. Dr. Distracted said the problem must be the group was not communicating effectively. He noticed you, Mary, and Henry looked angry and agitated, while Jack simply looked bewildered, a little hurt, and not at all guilty. It was easy for Dr. Distracted to conclude this was a dysfunctional group, and everyone was at fault—probably Jack least of all.

The bottom line: *You and your teammates are left holding the bag. Jack is getting the same good grades as everyone else without doing any work. Oh yes—he managed to make you all look bad while he was at it.*

What this group did wrong: Absorbing

This was an 'absorber' group. From the very beginning they absorbed the problem when Jack did something wrong, and took pride in getting the job done whatever the cost. *Hitchhikers count on you to act in a self-sacrificing manner.* However, the nicer you are (or the nicer you think you are being), the more the hitchhiker will be able to hitchhike their way through the university— and through life. By absorbing the hitchhiker's problems, you are inadvertently training the hitchhiker to become the kind of person who thinks it is all right to take credit for the work of others.

What this group should have done: Mirroring

It's important to reflect back the dysfunctional behavior of the hitchhiker, so the hitchhiker pays the price—not you. Never accept accusations, blame, or criticism from a hitchhiker. Maintain your own sense of reality despite what the hitchhiker says, (easier said

¹This essay is a brief, adapted version from "It Takes Two to Tango: How 'Good' Students Enable Problematic Behavior in Teams," Barbara Oakley, Journal of Student Centered Learning, Volume 1, Issue 1, Fall, 2002, pp. 19-27.

than done). *Show you have a bottom line: there are limits to the behavior you will accept.* Clearly communicate these limits and act consistently on them. For example, here is what the group could have done:

When Jack couldn't find time to meet in his busy schedule, even when alternatives were suggested, you needed to decide whether Jack was a hitchhiker. Was Jack brusque, self-important, and in a hurry to get away? Those are suspicious signs. Someone needed to tell Jack up front to either find time to meet, or talk to the professor.

If Jack turns nothing in, his name does not go on the finished work. (Note: if you know your teammate is generally a contributor, it is appropriate to help if something unexpected arises.) Many professors allow a team to fire a student, so the would-be freeloader has to work alone the rest of the semester. Discuss this option with your instructor if the student has not contributed over the course of an assignment or two.

If Jack turns in poorly prepared homework or lab reports, you must tell him he has not contributed meaningfully, so his name will not go on the submitted work. No matter what Jack says, stick to your guns! If Jack gets abusive, show the professor his work. Do this the first time the junk is submitted, before Jack has taken much advantage—not after a month, when you are really getting frustrated. Set your limits early and high, because hitchhikers have an uncanny ability to detect just how much they can get away with.

If Jack doesn't respond to e-mails, answer phone messages, or show up for meetings, don't waste more time trying to contact him. (It can be helpful, particularly in industry, to use e-mail for contacting purposes, because then a written record is available about the contact attempt. Copying the e-mail to Jack's supervisor or other important people can often produce surprisingly effective results.)

Keep in mind the only one who can handle Jack's problems is Jack. You can't change him—you can only change your own attitude so he no longer takes advantage of you. Only Jack can change Jack—and he will have no incentive to change if you do all his work for him.

People like Jack can be skilled manipulators. By the time you find out his problems are never-ending, and he himself is their cause, the semester has ended and he is off to repeat his manipulations on a new, unsuspecting group. Stop allowing these dysfunctional patterns early in the game—before the hitchhiker takes advantage of you and the rest of your team!

Henry, the Couch Potato

But we haven't discussed Henry yet. Although Henry stood up with the rest of the group to try to battle against Jack's irrational behavior, he hasn't really been pulling his weight. (If you think of yourself as tired and bored and really more interested in watching TV than working on your homework—everyone has had times like these—you begin to get a picture of the couch potato.)

You will find the best way to deal with a couch potato like Henry is the way you deal with a hitchhiker: set firm, explicit expectations—then stick to your guns. Although couch potatoes are not as manipulative as hitchhikers, they will definitely test your limits. If your limits are weak, you then share the blame if you have Henry's work to do as well as your own.

But I've Never Liked Telling People What to Do!

If you are a nice person who has always avoided confrontation, working with a couch potato or a hitchhiker can help you grow as a person and learn the important character trait of firmness. Just be patient with yourself as you learn. The first few times you try to be firm, you may find yourself thinking—'but now he/she won't like me—it's not worth the pain!' But many people just like you have had exactly the same troubled reaction the first few (or even many) times they tried to be firm. Just keep trying—and stick to your guns! Some-day it will seem more natural and you won't feel so guilty about having reasonable expectations for others. In the meantime, you will find you have more time to spend with your family, friends, or schoolwork, because you aren't doing someone else's job along with your own.

Common Characteristics that Allow a Hitchhiker to Take Advantage

Unwillingness to allow a slacker to fail and subsequently learn from their own mistakes.

Devotion to the ideal of 'the good of the team' — without common-sense realization of how this can allow others to take advantage of you. Sometimes you show (and are secretly proud of) irrational loyalty to others.

You like to make others happy even at your own expense.

You always feel you have to do better your best is never enough.

Your willingness to interpret the slightest contribution by a slacker as 'progress.'

You are willing to make personal sacrifices so as to not abandon a hitchhiker-without realizing you are devaluing yourself in this process.

Long-suffering martyrdom — nobody but you could stand this.

The ability to cooperate but not delegate.

Excessive conscientiousness.

The tendency to feel responsible for others at the expense of being responsible for yourself.

A related circumstance: you're doing all the work

As soon as you become aware everyone is leaving the work to your - or doing such poor work that you are left doing it all, you need to take action. Many professors allow you the leeway to request a move to an-

other team. (You cannot move to another group on your own.) Your professor will probably ask some questions before taking the appropriate action.

Later on-out on the job and in your personal life

You will meet couch potatoes and hitchhikers throughout the course of your professional career. Couch potatoes are relatively benign, can often be firmly guided to do reasonably good work, and can even become your friends. However, hitchhikers are completely different people-ones who can work their way into your confidence and then destroy it. (Hitchhikers may infrequently try to befriend you and cooperate once you've gained their respect because they can't manipulate you. Just because they've changed their behavior towards you, however, doesn't mean they won't continue to do the same thing to others.) Occasionally, a colleague, subordinate, supervisor, friend, or acquaintance could be a hitchhiker. If this is the case, and your personal or professional life is being affected, it will help if you keep in mind the techniques suggested above.

APPENDIX 1: Research Ethics Board Approval



Office of Research Services

Tel 807-343-8934

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August 15, 2013

Principal Investigator: Dr. Brent Cuthbertson
Student investigator: Matthew Griffin
School of Outdoor Recreation, Parks and Tourism
Lakehead University
955 Oliver Road
Thunder Bay, ON P7B 5E1

Dear Dr. Cuthbertson and Mr. Griffin:

Re: REB Project # 038 13-14/ Romeo File No: 1463377

Granting Agency: N/A

Granting Agency Project #: N/A

On behalf of the Research Ethics Board, I am pleased to grant ethical approval to your research project titled, "A Case Study of Reflections on the Implementation of Group Projects from the Perspective of Professors at Lakehead University".

Ethics approval is valid until August 15, 2014. Please submit a Request for Renewal form to the Office of Research Services by July 15, 2014 if your research involving human subjects will continue for longer than one year. A Final Report must be submitted promptly upon completion of the project. Research Ethics Board forms are available through the Romeo Research Portal.

<http://romeo.lakeheadu.ca>

During the course of the study, any modifications to the protocol or forms must not be initiated without prior written approval from the REB. You must promptly notify the REB of any adverse events that *may* occur.

Best wishes for a successful research project.

Dr. Richard Maundrell
Chair Research Ethics Board

/scw

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