THE INTEGRATION OF LANGUAGE AND CONTENT: 
FORM-FOCUSED INSTRUCTION IN A CONTENT-BASED LANGUAGE PROGRAM

by

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Abstract

Content-based language instruction has gained widespread acceptance as an effective approach in a range of educational settings for adults and children. It is premised on the belief that language and content are inextricably linked and that learning is enhanced through an integrated approach. Yet the nature of the relationship between content and language, and how integration can be achieved in the content-based language classroom, continue to be points of divergence for both researchers and practitioners.

One approach to this question draws on research in form-focused instruction (FFI), which describes various instructional options that draw learners’ attention to form in primarily meaning and content-based classrooms. While widely accepted that FFI has a positive impact on language learning outcomes in a variety of contexts, FFI research in content-based language programs for adults has been limited.

This study investigated the effect and effectiveness of FFI in a content-based language program designed to prepare adult newcomers to Canada for employment in a specific workplace sector. Two groups of adult learners participated in the study. One group of 16 adults received content-based instruction integrated with FFI while the other group of 20
adults received the same content-based instruction with a focus on meaning only. A quasi-experimental, pre-test/post-test/delayed post-test design was adopted for this comparative study in order to measure language and content outcomes. Language measures included an error correction task, a cloze task, and oral production tasks. Content outcomes were measured via content tests. In addition, a retrospective awareness protocol was designed to assess learners’ awareness of language and content in their instruction and to explore the relationship between this awareness and language development.

ANOVA and ANCOVA results indicated that there was no advantage for the participants receiving form-focused instruction on language outcomes but a significant benefit on the content knowledge tests. Analysis of the retrospective report data indicated that the participants were able to identify the focus of the instruction they received. However, no relationship between awareness of language and language development was found. These findings are discussed in light of previous research and in terms of their implications for content-based language instruction.
Acknowledgements

While this thesis bears my name, there are many people who have contributed to its development and ultimate completion. Here I will thank only a few and I will begin with Dr. Nina Spada, my faculty advisor, thesis supervisor, and mentor. In all these capacities, she supported and guided my development as a scholar by demanding intellectual rigour and excellence while allowing me to individualize my academic inquiry and goals.

I would like to express my deep appreciation to Dr. Jim Cummins and Dr. Eunice Jang for their attentive support and guidance and to Dr. Merrill Swain for her excitement in my work from its very early stages to the final completion, when she showed me how much more there is still to discover and explore. I am very thankful to Dr. Teresa Pica, for her insightful questions and encouragement in her role as External Examiner.

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Dedication

To Chris, Morag and Ursula,

for all the times you wondered, "Are we there yet?"

We're here.
Chapter One:
Introduction

Rationale

A primary goal of much research in the field of second language acquisition (SLA) has been to develop an understanding of how form and meaning connect in the process of second language (L2) learning: how do they intersect, what makes it happen and why does it sometimes fail to happen? An understanding of these processes is crucial in helping us design instruction that will facilitate form-meaning connections in the language classroom. In this thesis, the connection between form and meaning is explored within two pedagogical frameworks: content-based language teaching and form-focused instruction.

Content-based language teaching (CBLT) is an umbrella term used to describe a wide range of teaching models in which second languages are taught via subject matter other than language itself, for example, mathematics, social studies, psychology and other subject areas. CBLT is premised on the belief that language and content are inseparable in communication and that learning is enhanced by integrating the two in instruction. This premise has provided the framework for instructional models in a range of language education settings for both adults and children. One of the most widely known examples is Canadian French immersion programs situated in elementary and secondary schools. Other CBLT programs are situated in colleges and universities, continuing education programs for adults, and workplaces. They combine language and content by drawing on themes, academic subject matter, vocational skills, and professional knowledge. As an instructional framework, content-based language teaching has become widely accepted as effective pedagogy and draws support from both classroom practice and research (Brinton, Snow, & Wesche, 2003; Crandall & Kaufman, 2005; Krueger & Ryan, 1993; Snow & Brinton, 1997; Stoller, 2004; Stryker & Leaver, 1997; Wesche & Skehan, 2002). Teachers and program developers describe how content in language instruction motivates learners, provides meaningful learning, builds on past experiences (Genesee, 1994; Snow & Brinton, 1997), and supports the development of academic language proficiency.
Cummins, 1984, 2000). Numerous evaluations in foreign language programs have reported increased learner satisfaction, improvements in language proficiency, and growth in content knowledge (e.g., Kasper, 1995; Krueger & Ryan, 1993; Leaver, 1997; Stryker & Leaver, 1997). Similarly, empirical research in a number of L2 immersion programs has documented significant increases for learners in both language proficiency and academic achievement (e.g., Burger, Wesche, & Migneron, 1997; Swain & Lapkin, 1981; Turnbull, Lapkin, & Hart, 2001; Van de Craen, Mondt, Allain, & Gao, 2007).

Given these successful results, it is not surprising that CBLT programs have grown in popularity and have been adopted in a variety of contexts, all premised on the benefits of the integration of language and content. Yet, instruction varies widely with regard to the focus given to content or language as teachers attempt to achieve a balance between the two. A range of frameworks and approaches has emerged: Mohan’s (1986) Knowledge Framework involves identifying key concepts and structures that comprise content knowledge; Snow, Met, and Genesee (1989) have proposed that teachers begin by analyzing learners’ academic and communicative needs and address ‘content-obligatory’ language objectives; and the Cognitive Academic Language Learning Approach (CALLA) promotes explicit instruction in strategies in order to help English language learners in schools learn language and access academic content (Chamot & O’Malley, 1994). Thus, questions remain as to how best to actualize the pedagogical links between content and language.

In addition, despite the many positive results from the Canadian French immersion programs, research has shown that the productive abilities of learners in the areas of grammatical and sociolinguistic knowledge were less developed than expected after many years of rich content-based instruction via subject-matter teaching. Subsequent classroom observations revealed that instruction did not effectively integrate language forms with content, leading to the conclusion that “not all content teaching is necessarily good language teaching” (Swain, 1988, p. 68). Efforts to better combine the two have led to considerable research in French immersion programs. Some of this research falls into the broader category of form-focused instruction (FFI), an approach to achieving the integration of content and language by drawing attention to language form in meaning-oriented language teaching such as content-based programs (Spada, 1997).
A basic premise underlying FFI is the claim that attention to language form is necessary for language acquisition (Schmidt, 1990). In the classroom, it is implemented via a range of pedagogical options from the very implicit, in which learners are exposed to language form indirectly, to very explicit instruction that includes metalinguistic explanations of grammar. The common feature is that both are intended to integrate attention to form with attention to meaning. Research investigating the overall effectiveness of FFI has generally been positive and it is widely accepted that instruction that connects form and meaning in instructed SLA is more effective than instruction that focuses exclusively on meaning (Doughty & Williams, 1998a; Ellis, 2001; Lyster, 2007; Norris & Ortega, 2000; Spada, 1997; Swain, 2000). However, findings have not been consistent and a number of more specific questions related to FFI have merited attention. These include: what types of FFI are most effective; which linguistic forms benefit most from FFI; and to what degree should a focus on form be integrated into meaning-focused instruction (e.g., Doughty & Williams, 1998a; Ellis, 2001; Norris & Ortega, 2000; Spada, 1997; Spada & Lightbown, 2008; Williams, 2005).

Similar to French immersion programs, research in adult CBLT programs has revealed that a focus on language form has not been widely adopted (Musumeci, 1996; Pica, 2002) and there is concern that explicit attention to language will detract from attention to content in such programs (Klee & Tedick, 1997; Toth, 2004; Zyzik & Polio, 2008). This is consistent with the claim that learners experience difficulty attending to both the structure of language and the meaning of content at the same time (VanPatten, 1990).

To date, FFI research in adult CBLT contexts has been limited. FFI research situated in content-based language programs has most commonly been carried out with children in French immersion programs (for overviews see Lyster, 2004; Swain, 2000). Studies which have been carried out in CBLT programs for adults have generally not investigated the effects of FFI on learning outcomes. Therefore, questions remain as to the effect of FFI on both language and content learning in content-based programs with adults.
Research Questions

This thesis reports on a study investigating the effectiveness and effect of FFI on both language and content learning in a specific CBLT program, one designed to prepare adults for employment in a specific occupation. The study is concerned with three aspects of FFI instruction in content-based programs. Firstly, as such programs are designed to achieve gains in language proficiency, it is essential to establish the effectiveness of FFI in this context. The first question is then: What effect does FFI have on language learning in a content-based language program for adults? Secondly, because content learning is often a shared goal in such programs, the second research question asks: What effect does FFI have on content learning in a content-based language program for adults? The third research question investigates the potential conflict between attention to language and attention to content. This question asks: What effect does FFI have on learner awareness of language and content in this context?

Thesis Organization

The thesis contains five chapters. In this first chapter, I have outlined the rationale for this research and identified the research questions guiding the study. In Chapter Two, I review the relevant literature, including theoretical and empirical research underpinning content-based language teaching, form-focused instruction, and attention and awareness in SLA. Chapter Two also provides a review of empirical research that has investigated the effect of FFI on content and language learning, and identifies gaps in the existing research that may be addressed by this thesis. Chapter Three describes the methodology for the study, including the instructional treatment, procedures for data collection, coding and scoring. In Chapter Four, I present the results and a discussion of the findings. The thesis concludes with Chapter Five, in which I draw conclusions, describe the limitations of the study, discuss pedagogical implications, and present directions for future research.
Chapter Two: 
Literature Review

Overview

This study is motivated by theoretical and pedagogical interests: to inform instructional design intended to integrate language and content and to explore how form and meaning intersect in SLA. Both interests draw on an extensive body of research that encompasses theory and practice underlying three different yet related frameworks and lines of inquiry: content-based language teaching, form-focused instruction and attention and awareness in SLA. All three of these areas are linked by a concern with the intersection of form and meaning in second language classrooms. Content-based language instruction was originally inspired as an alternative to traditional approaches to language teaching that favoured form over meaning. Form-focused instruction brought language form to the foreground when meaning-focused, content-based approaches relegated the learning of language form to an incidental role. Research in attention and awareness has explored a focus on form and meaning as internal learner processes. The research questions guiding the present study were motivated by an interest in these areas.

This chapter provides a review of the theoretical premises underlying the three research areas explored in the current study as framed within a concern with form-meaning connections. It includes an overview of empirical research that is relevant to the specific goals and issues explored in the present study and it concludes with a summary of the existing research and a discussion of the gaps that may be addressed by the present study.

Content-Based Language Teaching

The present study is situated in a non-credit English as a Second Language (ESL) program for adult newcomers to Canada. Unlike the majority of ESL programs serving adult newcomers, this is a program of specialized language instruction that addresses language learning within a specific body of content knowledge. This program is an example of an instructional context widely described as content-based language teaching.
(CBLT), an umbrella term that captures a wide range of classroom models that include attention to content and language. CBLT is premised on the belief that language and content are inseparable in SLA, and that language is “a system that relates what is being talked about (content) and the means used to talk about it (expression)” (Mohan, 1986, p. 1). As a pedagogical framework, CBLT has been widely adopted as an alternative to traditional models of teaching that separated language and content. These models promoted teaching of language as the subject of classroom instruction and have been criticized as consisting of “piecemeal, bottom-up approaches” (Stryker & Leaver, 1997). In adult and school-based education, it “aims at eliminating the artificial separation between language instruction and subject matter classes” (Brinton et al., 2003, p. 2) and offers a two for one approach (Lightbown & Spada, 2006). Theoretically, CBLT draws on research that situates the integration of language and content as the relationship between form and meaning. An understanding of the theory and practice related to the content-based classroom is essential to the present study. In this section of the chapter, I outline the underlying theory and rationale commonly cited as a basis for CBLT, review empirical research that has evaluated CBLT in the classroom, and outline various approaches designed to integrate language and content.

**Theoretical Framework and Rationale**

In the professional and research literature, support for the integration of language and content draws largely on research situated in SLA and related disciplines. For example, research in cognitive psychology exploring the link between depth of processing and memory has found that input that is semantically rich encourages greater depth of processing and facilitates recall of learning (Anderson & Reder, 1979), and research in learning theory suggests that interesting content engages learners and encourages the development of an associative network (Tobias, 1994). As a framework for instruction, however, CBLT has been most strongly influenced from within SLA by the work of Stephen Krashen (1982) who made theoretical claims that promoted an exclusive focus on content and meaning, and an incidental role for attention to language structure. Krashen viewed language acquisition as a process in which learners acquired structure by focusing
on meaning rather than form. He argued that learners focus on the meaning and not on the form of the message and proposed that language acquisition occurs when learners are provided with comprehensible input: meaningful input that is provided via language that is just slightly beyond the learners’ linguistic proficiency, thus making it challenging to the learner. According to Krashen, the best type of input is “so interesting and relevant that the acquirer may even ‘forget’ that the message is encoded in a foreign language” (Krashen, 1982, p. 66). In line with this perspective, the effective classroom was considered one in which teachers focused primarily on content with the assumption that learning of language form would follow. Examples of this include the Natural Method (Krashen & Terrell, 1983); the task-based approach of Prabhu’s Communicational Teaching Project (Prabhu, 1987) and some Content and Language Integrated Learning (CLIL) classrooms in which a ‘language bath’ stimulates language acquisition without direct instruction (Dalton-Puffer, 2007).

CBLT was also influenced by the development of communicative language teaching (CLT), an approach which emerged as an alternative to language instruction in which learners learned much about the structure of language but failed to develop proficiency as language users. CLT advocated a strong role for meaning in the classroom and is premised on the notion that the goal of language learning is the development of communicative competence (Canale & Swain, 1980; Hymes, 1971; Savignon, 1983). Consistent with this goal, CLT involves learning activities intended to prepare the learner to “communicate meanings effectively” (Littlewood, 1981, p. 16). Unlike Krashen’s perspective, however, a role for attention to form is acknowledged: “Communication cannot take place in the absence of structure, or grammar, a set of shared assumptions about how language works, along with a willingness of participants to cooperate in the negotiation of meaning” (Savignon, 2005, p. 640). In a review of CLT, Spada (2007) affirms a balance of form and meaning as consistent with the underlying philosophy of CLT. This symbiotic relationship between form and meaning, as language and content, is the cornerstone of much content-based language teaching.

CBLT has also been informed and encouraged by research and pedagogy concerned with subject matter teaching in schools. In this context, Cummins (1984, 2000) drew attention to the relationship between the learning of content knowledge and learners’
language proficiency. Citing research that has documented the academic challenges faced by minority language children who appear to be proficient linguistically yet unable to achieve academically at grade appropriate levels, Cummins suggested a model of proficiency that included both interpersonal communicative skills rooted in the social context and academic language skills required for the classroom. He argued that in order to help children learn the academic language, teaching must consider how content and language intersect in the classroom and plan scaffolding tasks for learners. Along these lines, Cummins (2000) proposed a framework that integrates content and language learning by considering the degree of contextual support and cognitive demand inherent in the tasks. A greater degree of context in a task makes it easier for learners to access the content with less cognitive demand while less context forces learners to stretch their linguistic resources. For example, literacy is cognitively demanding because it requires a more precise command of language without added support in order for content to be understood. Appropriately, literacy becomes a primary focus in content-based programs where documents are often used as a source of content. In this framework, content and language are integrated when tasks are planned to scaffold learners from a reliance on context and low cognitive demand, to a greater reliance on language to communicate and understand content. Cummins’ theoretical and empirical research has provided support for the integration of content and language while underscoring the complexity of this relationship.

**Approaches to Integrating Language and Content**

Despite general agreement on the theoretical soundness of CBLT, the question of how to integrate language and content in the classroom has been approached from diverse perspectives and a number of proposals have emerged. One of the earliest is Mohan’s (1986) model of knowledge frameworks. This model draws on a functional linguistics approach that focuses on the functions of language rather than the structural components. This model views content knowledge as framed by key concepts which are shared across topics and themes. It provides a framework that guides teachers and learners through processes in which they draw on the concepts to identify information specific to the topic
content. In this way, learners develop the language to understand and communicate the content. In addition to the support afforded by the framework, graphic organizers are used to guide learners through the content.

Snow, Met, and Genesee (1989) propose a different approach to integrating content and language. They recommend that teachers begin by analyzing learners’ academic and communicative needs in order to identify relationships between language and content. These relationships are framed within a perspective of ‘language serving content’: language that is essential to the content is ‘content-obligatory’ and language that naturally occurs in the content is ‘content-compatible’. This activity helps the teacher decide what language outcomes to address. In this approach, language and content are ordinarily taught by different teachers who collaborate to develop language objectives to be addressed alongside content objectives. It could also be taught by one teacher who adopts a dual role.

Another perspective on the integration of language and content is reflected in The Cognitive Academic Language Learning Approach (CALLA) (Chamot & O’Malley, 1994). This approach draws together content learning, language learning and explicit instruction in learning strategies. The aim of this approach is to help learners become better at learning so they can learn language and content knowledge. The content determines both the language and the strategies needed and lessons are structured to scaffold learners through the content.

Classroom tasks have also been adopted as a means of integrating language and content. Pedagogic tasks in the SLA literature have been commonly defined in terms of goal focused activities in which meaning is primary (Bygate, Skehan, & Swain, 2001; Ellis, 2003, Nunan, 2004; Skehan, 1996). A prominent example of this approach is Prabhu’s (1987) school-based project in Bangalore, India. Prabhu adopted tasks as a means of creating communicative need in the classroom and providing a framework for activities that help learners infer meaning and solve problems using language. He argued that “meaning-focused activity ensures that any attention to form is (1) contingent to dealing with meaning and (2) self-initiated (i.e., not planned, predicted, or controlled by the teacher)” (Prabhu, 1987, p. 76). Outside of the academic context, tasks have provided
a framework for professional and vocational content-based language teaching for adults. In this context, tasks have been used to provide access to the ‘expert language’ of occupations and professions and in this way help bridge the gap between the learners’ proficiency levels and more complex language that is key to specific disciplines (Bogaert, Van Gorp, Bultynck, Lanssens, & Depauw, 2006).

More recently, other researchers have suggested that the relationship between content and language is more complex than one of conduits that provide access. Barwell (2005) argues that this conduit model conceptually separates language and content by suggesting that language can be learned first and then followed by content. He also argues that this model situates language and content as static and fixed rather than variable, and obscures the social dimensions and relationships that are shaped by education. Similarly, others view content and language integrated learning as a process in which learners are socialized into communities of practice. In this model, the relationship between content and language is constructed by the participants rather than existing as a predefined body of knowledge (e.g., Davison, 2005).

**Implementing CBLT: Characteristics and Pedagogic Models**

In addition to the range of perspectives, CBLT can be implemented via a myriad of teaching models situated in a range of contexts including schools, colleges and universities and other programs of adult education (Snow & Brinton, 1997). Although diverse, the various models share a number of common features that distinguish them from other models of language teaching and learning. Firstly, with regard to syllabus, content-based programs are organized according to the content knowledge, whether this is a topic of interest, academic subject matter or vocation specific knowledge. Units are defined as content and language is typically derived from the content. In traditional language programs, the course may be organized as units of grammatical features, while in the communicative classroom, the course may be planned with specific grammatical features in mind and the content of topics and themes is chosen to provide a context in which the grammar is taught. Secondly, material and task selection take on a particular role. They are selected by the teacher in content-based classrooms as authentic
representations of text and tasks that the learner would interact with outside the classroom. The material provides the source of the subject knowledge, whether it is an academic text or a workplace document. Strategies are employed to allow learners to work with the authentic material that is typically not simplified. In communicative language classrooms that are not driven by content, the teacher may choose to simplify the text in order to make it comprehensible. Finally, content-based programs are usually geared to the professional or personal interests of a group of learners. A core language class premised on a communicative framework also includes topics of interest but ordinarily these are derived from an initial analysis of learner needs and interests that the teacher tries to accommodate. Content-based programs are designed with a specific learner group in mind.

These common features distinguish content-based programs from other language instruction. However, classroom practice varies in terms of the degree to which it is driven by content or language. Rather than being absolute, this variation can be captured as a continuum that reflects ‘strong’ and ‘weak’ versions with regard to the role of content. At one end of the continuum are those programs that are distinctly content-driven: immersion and foreign language medium instruction. Their purpose is to teach content in the second language. Content determines the course goals and content knowledge is what is evaluated. Ordinarily, in such a case, the class is taught by a teacher who is primarily an expert in the content and the learners in these programs see the teacher as a source of content knowledge. Both teachers and learners are distinctly focused on content as their common purpose. At the other end of the continuum are programs that use content to teach the language. In such contexts, language determines the course goals and language proficiency is evaluated. The teacher is ordinarily a language expert with or without knowledge of the content. In such programs, content is provided via material and tasks, rather than the teacher as source, and the learners are typically more aware that they are there to learn language with content as a bonus. Figure 1 adapted from Zyzik and Polio (2008) illustrates this continuum.
Content-Driven Language-Driven

- Content is taught in L2
- Content determines course goals
- Content learning outcomes are assessed
- Teacher is a content expert

- Language determines content
- Language determines course goals
- Language outcomes are assessed
- Teacher is a language expert

*Figure 1. Language and content continuum.*

Diverse terminology is used to identify pedagogic models that combine attention to language and content. Some of the more common models can be captured within four primary strands and described as follows:

**Thematic programs.**

Thematic programs represent a highly language driven model of CBLT. These programs use content to establish a context for language learning and teaching. The content gives shape and purpose to language learning. They can be found in a variety of settings, including university language programs and community-based language programs helping newcomers with settlement (Gianelli, 1997). Language skills are spiralled throughout the program as learners work with the content.

**Bilingual and immersion programs.**

Bilingual and immersion programs are often highly content-driven. The purpose of these programs is to learn the academic subject matter while simultaneously learning the language. Examples include French immersion programs in Canada and Content and Language Integrated Learning (CLIL) across Europe. French immersion programs began in the 1960s. In these programs, non-French speaking elementary and secondary school students study all or part of their academic content courses in French, a language which shares official status with English but remains a minority language in many parts of Canada (see overview by Swain & Johnson, 1997). Typically, immersion classes are
taught by the same teacher who is responsible for both language and content instruction. In Europe, CLIL has been widely adopted since the 1990’s. While English, French and German are the most common target languages, over 30 target languages across the European Community are included. In CLIL, the mandate is to focus not only on language and content but also on developing skills for intercultural communication and internationalization (Marsh, Maljers, & Hartiala, 2001).

**Sheltered and adjunct language programs.**

These models are more moderate than either immersion or theme-based programs in terms of the degree to which they are language or content driven. They are common in universities and colleges and usually designed to help adults learn the language necessary to study specific subject matter. In sheltered programs, one teacher teaches the same content as in the mainstream program but employs strategies to accommodate learners’ proficiency levels so they can work through the content. In adjunct classes, two teachers are typically involved: a content specialist teaches the subject matter and a language specialist in a separate class teaches the language that connects with the content (e.g., Burger et al., 1997). Some sheltered programs, such as those at the University of Ottawa in Canada, employ a comprehension-based approach. The goal of this approach is to develop comprehension as a meaning-base and help learners with the academic language they need for the content in the program. Although the comprehension-based curriculum does not exclude a role for grammar teaching, it is situated as ‘emerging’ from the content, unplanned and incidental (Courchêne, 1992).

**Vocational, workplace, and sector specific programs.**

These models provide language instruction that draws on the knowledge base of specific professions, occupations and workplace contexts. Programs that prepare learners to take up a particular employment are sometimes known as vocational English as a second language (VESL) instruction and have been described as “an excellent example of content-based instruction” (Wong, 1997, p. 359) in so far as they are designed to integrate specific content with language learning aims. Workplace classes are usually situated in a
workplace and focus on the content knowledge and skills relevant to a particular occupation in a specific workplace environment (Henze & Katz, 1997).

The context in which the present study is situated can be characterized as a vocational preparation program. While these are precisely the aims of the program under investigation in this research, there are challenges in terms of deciding where along the language and content continuum it may be placed. As a non-credit, publicly funded language program it is language driven: language proficiency is assessed for entry into the program and outcomes are measured as an indicator of success; content outcomes are not formally assessed or documented; teachers in these programs are ordinarily language experts with an understanding of content-based language teaching strategies, as opposed to experts in the content. However, as a program designed to meet occupation-specific needs of adult newcomers preparing for employment, it is content-driven: the content determines the language addressed in planning and teaching; course goals are often expressed as clearly situated within the context of the specific employment sector and linked to an understanding of content matter; partnerships with employers or accredited training programs are encouraged; and content experts may be consulted in the development of the teaching materials. In addition, while many of the programs are intended for newcomers with previous training and experience in the sector, a number of learners with no experience or training enroll in an effort to become familiar with the employment requirements of the sector and prepare for further accredited training and education. These individuals recognize the need for improved language skills but are also highly focused on the content. Anecdotal evidence from teachers in these programs supports this and my own observations in the program of this study confirm that the majority of questions raised by the learners in the classes are intended to clarify content and not language form. For these reasons, the program under investigation in the present study constitutes a dual focused program of content and language.

Support From the Classroom: Evaluation of CBLT

Research in programs identified as content-based has been carried out in school-based immersion programs, university credit programs and adult education. With regard to
adult education programs, the research literature has consisted for the most part of program descriptions intended to present models of best practices (e.g., Kasper, 1995; Snow & Brinton, 1997; Stoller, 2004; Stryker & Leaver, 1997; Wesche & Skehan, 2002). It has been largely descriptive, showcasing specific programs and exploring how integrating content and language influences program design, methodology, materials development and teacher preparation (Brinton et al., 2003; Gaffield-Vile, 1996; Krueger & Ryan, 1993; Stryker & Leaver, 1997). Research reporting outcomes has generally been designed as program evaluation and has included reports of learner satisfaction and gains in global language proficiency as indicators of program success and testimonials in support of the content-based model (e.g., Graham & Beardsley, 1986; Kasper, 1995; Klahn, 1997; Klee & Tedick, 1997; Krueger & Ryan, 1993; Leaver, 1997; Ready & Wesche, 1992; Straight, 1997; Stryker & Leaver, 1997).

An example of empirical research that has been conducted in content-based programs for adults is situated in the post-secondary sheltered and adjunct models of bilingual education at the University of Ottawa in Canada. This bilingual university offers degree programs in both English and French. Burger et al. (1997) provide an overview of the development of this program and summarize research conducted since its early inception in 1981. Program evaluations over several years have consistently reported positive results for both language gains and content mastery by learners in the sheltered and adjunct programs. In a more recent study, two cohorts of students, one enrolled in an English language adjunct program and the other in a French language adjunct were involved in a two year study designed specifically to measure the development of oral proficiency (Burger & Chretien, 2001). As a comprehension-based program, the main focus of instruction is to help learners access the content of the lectures and texts used in the subject matter courses. Grammar is described as incidental, dealt with as it arises in the lesson and always in context. Language outcomes were assessed by the language teacher using language measures closely aligned with the content. Subject mastery was assessed by the subject matter teacher using tests and exams that were a standard part of the mainstream course. The results showed that students in this program met or exceeded language proficiency gains and subject mastery when compared to students in the mainstream programs.
In school-based programs for children, extensive research has been carried out in Canadian French immersion programs. Evaluation in French immersion programs has addressed questions of French language proficiency development, academic achievement, and the effect of French immersion on English language development (see Genesee, 1987; Lyster, 2007; Swain & Lapkin, 1981; Turnbull, Lapkin, & Hart, 2001). In these evaluations, language learning has been assessed with standardized global proficiency tools and content outcomes have been assessed with standardized academic achievement tests. With regard to French language proficiency, research has shown that, when compared with students enrolled in French language schools in Ontario, French immersion students achieve close to native-like levels of reading comprehension, although their fluency and written productive skills are far from native-like, a finding that will be discussed in more detail later. Tests of academic achievement have shown no difference between immersion students and non-immersion students. On the question of English language proficiency, the research has shown that within a year of English language instruction being introduced into the French immersion program, the reading skills of early French immersion students are at the same level as those of non-French immersion students at the same grade level.

Research in CLIL has reported favourable results for language (Marsh, Maljers, & Hartiala, 2001) and content learning (Smit, 2008). More specifically, Van de Craen, Mondt, Allain, and Gao (2007) found that learners develop better target language proficiency in CLIL than in traditional language classrooms, that their first language proficiency remains as strong or stronger than monolingual children, and that subject matter learning is positive, though more so at the primary levels than the secondary levels.

Much of this research has served to allay concerns about possible negative impact on academic achievement or to show the benefits of such a model over mainstream approaches that teach language and content in separate classrooms. Nonetheless, concerns remain about some aspects of learners’ abilities in CBLT programs, particularly linguistic accuracy. An alternate research agenda, however, has investigated various aspects of language proficiency developed in these programs including linguistic accuracy. In this regard, form-focused instruction has emerged as a framework for integrating attention to content, as meaning, and to language, as linguistic form. Within this framework, attention
to form is problematized and instruction is intended to draw learners’ attention to form while maintaining a focus on meaning (i.e., content). This option in language and content integration is discussed below.

**Form-Focused Instruction**

Like content-based language instruction, FFI is rooted in research and theorizing that reflects changing perspectives about the relationship between form and meaning in SLA. Some of this change was motivated by early research situated in French immersion classrooms at a time when they exemplified content-based language teaching with a strong focus on content and an incidental role for the teaching of language form. While research in French immersion yielded overall positive results for both language development and academic achievement, studies also revealed differences between the development of receptive and productive skills in the target language, and in particular with regard to grammatical accuracy (Genesee, 1987; Harley & Swain, 1984; Swain & Lapkin, 1981). For example, Harley and Swain (1984) examined the proficiency of French immersion students on both oral and written tasks with regard to specific grammatical features and found that comprehension far exceeded productive abilities. Other studies have compared the grammatical, discourse and sociolinguistic competence of French immersion students with their native French-speaking counterparts and found that French immersion students scored below expectations in the grammatical and sociolinguistic domains of proficiency (see Harley, Cummins, Swain, & Allen, 1990; Swain, 1985). Similar results emerged in research comparing outcomes for early and late immersion learners. This research found advantages for early immersion over late immersion though not as widespread as anticipated: some verb systems were weaker than expected given the rich extensive input provided to the early immersion group of learners over the years (Harley, 1992). Evidence suggested that while comprehensible input was necessary, it was not sufficient. Further to these studies, observation in French immersion classrooms revealed that teachers taught grammar but that they did so in a manner disconnected from the teaching of content (see Swain, 1996). It appeared that isolated focus on grammar forms failed to help learners make the form-meaning connections necessary for language acquisition despite the rich provision of meaning provided by the content of the French immersion classroom.
Therefore, it was hypothesized that instruction which included more attention to form within communicative and content-based practice would be helpful for L2 learning.

**Theoretical Framework for a Focus on Form**

Theorizing and research underpinning FFI has been premised largely on the belief that conscious processing plays a role in SLA. In the research literature concerned with FFI, the role of consciousness is most widely discussed in terms of the concept of noticing: the premise that a linguistic form must be ‘noticed’ in order to become part of a learners’ language. This concept is widely referenced to Schmidt (1990, 1995) who articulated it as the *noticing hypothesis*. This hypothesis initially grew out of data drawn from the personal language diaries of Schmidt while engaged in learning Portuguese (Schmidt & Frota, 1986). Analysis of Schmidt’s diary data showed evidence of a connection between his noticing of linguistic form, and its emergence in production.

Drawing on this data and research in psychology and cognitive science, Schmidt proposed that “conscious processing is a necessary condition for one step in the language learning process” (Schmidt, 1990, p. 131). In discussing the role of consciousness, he distinguishes between consciousness as awareness, as intention and as knowledge: awareness is perception; intention describes action over which the learner has control; and knowledge is demonstrated when a learner can talk about the rules of a language. Noticing, in this model, takes place at the level of conscious awareness and can be commonly reported and reflected upon by the individual. Schmidt acknowledges that awareness can also include perception at an unconscious level but argues that conscious awareness, as noticing, is essential for language input to be processed and become part of the learner’s language.

On the question of what influences noticing, Schmidt suggests that a number of factors contribute to noticing of form. These include the frequency and the perceptual salience of a particular feature: the more frequently the item appears in the input or the more salient it is, the more likely that it will be noticed. The skill level of individuals in attending to both form and meaning may also influence the likelihood that a particular form is noticed; and the demands of the task may influence processing and the focus of the
learner. Factors such as these have been manipulated in instruction that is designed to
effect noticing by introducing a focus on form in the classroom. While the noticing
hypothesis has been criticized on the basis that it is relevant only to the development of
metalinguistic knowledge (e.g., Truscott, 1998), it has been widely adopted as the premise
for many studies in the instructed SLA literature (Norris & Ortega, 2000).

In line with the assumption that some form of attention is required for language
acquisition, researchers have explored questions regarding the conditions and processes of
instructed SLA that might contribute to the noticing of form in meaning-based instruction.
In particular, two research areas or domains have been highly influential in subsequent
FFI research: interaction and output. An example of research concerned with interaction is
the work of Long (1985, 1996) who examined how interaction in the classroom
contributes to establishing accurate form-meaning connections. He proposed that when
learners interact and communication breaks down, they are forced to negotiate the
language they use to make meaning. This process is thought to enhance the
comprehensibility of input each learner receives, and to provide them with an opportunity
to notice linguistic form, specifically those forms they need to communicate clearly. In
addition, Long argues that when the learner is engaged in interaction and paying attention
during the conversation, “the chances that the learner will detect the changes, understand
them, and incorporate them is likely to be higher than when both form and meaning are
opaque” (Long, 1996, p. 453). Interest in conversational interaction between L2 learners
has inspired numerous studies exploring attention to form and meaning (for a meta-
analysis of interaction-based research in SLA see Mackey, 2007; Mackey & Goo, 2007;
Spada & Lightbown, 2009).

Interest in the role of output has also contributed to the research agenda
investigating form-meaning connections in SLA. Krashen (1982), in line with an input-
driven perspective of language learning, argued that output was a product of learning and
served only to provide more comprehensible input. Swain (1985) agreed with the essential
role of comprehensible input but suggested that learner output, rather than existing simply
as the product of learning, also contributed to the process. She drew on research in French
immersion, a content-driven, input rich context, which showed that teachers did not elicit
extensive talk from the students and did not push them to produce grammatically accurate
language when they did so. Swain (1995) suggested that this may be a contributing factor
to the lower than expected outcomes in grammatical competence in production. She noted
that when negotiating meaning, learners can make themselves understood with language
that is both grammatically incorrect and socially inappropriate and she argued that learners
need to be ‘pushed’ to use more accurate language to convey meaning. Articulated as the
output hypothesis, Swain (1995) maintained that the act of producing output can
contribute to learning in three ways: (a) it provides opportunity for learners to notice gaps
between what they hear and read and what they are able to produce; (b) it allows language
users to test hypotheses about how language works while they try to produce their own
meaning; and (c) it provides the opportunity for learners to reflect on language
metalinguistically and to use the language to shape their thoughts. Drawing on this
hypothesis, Swain and her colleagues have investigated how output can encourage
learners to become more aware of their use of language form in communicative and
content-based contexts such as French immersion (e.g., Kowal & Swain, 1997; Swain,
2001; Swain & Lapkin, 1995). The link between output and noticing of specific linguistic
forms has also been investigated in adult ESL classrooms (Izumi & Bigelow, 2000; Izumi,
Bigelow, Fujiwara, & Fearnlow, 1999) and continues to be a focus of SLA research
investigating a focus on form situated in highly meaning-focused contexts such as content-
based language teaching.

**Implementing Focus on Form**

The term *focus on form* was popularized by Long (1991) who used it to describe
instruction that attempts to “overtly draw students’ attention to linguistic elements as they
arise incidentally in lessons whose overriding focus is on meaning” (Long, 1991, p. 47).
He used this term to contrast it with *focus on forms*, which he intended to describe
approaches in which teaching is organized around a pre-planned syllabus of grammatical
forms. For Long, the defining features of this alternative approach were a primary focus
on meaning, and attention to form that was unplanned, arising during instruction. Other
researchers, however, have since used the term *form-focused instruction* (Ellis, 2001;
Spada, 1997) to describe a broader application of a focus on form. Ellis (2001) applies this
term to include attempts to draw attention to form within any teaching approach, including programs that are organized around linguistic units. Spada (1997) situates FFI within meaning-based instruction and provides a definition appropriate to content-based language instruction: “any pedagogical effort which is used to draw the learners’ attention to language form either implicitly or explicitly” and “occurs within meaning-based approaches to L2 instruction” (Spada, 1997, p.73). In the present study, the term FFI will be used to indicate instruction designed to draw attention to form in content-based classrooms.

Studies concerned with FFI have operationalized a focus on form via a range of pedagogical options that share a concern with conscious processing of form in a meaning-based context but capture this in a variety of ways. In attempting to capture the range of options in an organized framework, researchers have adopted diverse perspectives and terminology. In this regard, the literature on FFI includes terms such as proactive vs. reactive (Doughty & Williams, 1998b); planned vs. incidental (Ellis, 2001); and planned vs. spontaneous (Williams, 2005). A focus on form can be planned and proactive when a teacher chooses to identify, prior to instruction, language forms that will be challenging for the learner and/or essential to the communicative activities and plans instruction to draw attention to these forms. In content-based programs, the pre-selected forms are often those that emerge from the content and intersect with the meaning. Long’s (1991) original construct of incidental focus on form refers to instruction that draws attention to form as it arises in lessons that are meaning-focused. This is consistent with spontaneous and reactive FFI.

A number of reviews outline various teaching options formulated within FFI and offer taxonomies to illustrate how they reflect particular perspectives (Doughty & Williams, 1998a; Ellis, 2002; Spada, 1997; Williams, 2005). Doughty and Williams (1998b) organize various pedagogical options according to the potential to obstruct the flow of communication in the classroom. This approach is appropriate to the present study because a primary concern is the degree to which a focus on language form detracts from a focus on the meaning of content. It can be examined in terms of implicit or explicit instruction. Explicit instruction is defined in this study as “instruction aimed at inducing learners to thinking consciously about some sort of rule” (Ellis, 2006, p. 24), and implicit
instruction can be defined as “providing learners with input data containing the target structure and/or with opportunities to produce the target structure, in both cases without any awareness of what the target structure is. Thus, in this case, learners are expected to process input/output for message content” (Ellis, 2006, p. 24). Figure 2 provides a taxonomy adapted from Doughty and Williams (1998b) and includes some of the options commonly used by teachers and researchers. Some attempt to draw attention to form implicitly and not intrude on meaning while others are very explicit and make learners consciously aware that they are expected to pay attention to form. They include specific types of written and verbal input, task design, and different ways of providing feedback on learner errors. They are organized according to the degree to which they explicitly draw attention to form and have the potential to intrude on attention to meaning. Following Figure 2 is a description of the three options presented along with a brief review of some of the relevant empirical research.

<table>
<thead>
<tr>
<th>Unobtrusive/Implicit</th>
<th>Obtrusive/Explicit</th>
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<tbody>
<tr>
<td>Input flood</td>
<td>Input enhancement</td>
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<tr>
<td>Structure-based tasks</td>
<td>Collaborative tasks</td>
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<td>Recasts</td>
<td>Prompts:</td>
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<td></td>
<td>elicitation/clarification</td>
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<td></td>
<td>Explicit correction, grammar explanations</td>
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*Figure 2. FFI options.*

The manipulation of input, task design and the provision of feedback are particularly pertinent to the CBLT classroom. Content is most commonly provided in written text or spoken lectures; therefore input becomes a key component in these classrooms and is a focus of both learners and teachers. Given this focus, it is reasonable to consider manipulating input to direct learners’ attention to form. In the present study, the teacher provided content information both in lecture-style teaching and via authentic material used in the profession. Tasks are a key component of much content-based
teaching and in particular in the context of the present study in which workplace tasks were used to link the language and content specific to the profession. Finally, feedback is a key part of any classroom. Unlike core language classrooms, however, in content-based classrooms, learners receive extensive content-related feedback which may affect how they perceive language-related feedback. Following is an overview of these options and some of the empirical research that has investigated their effectiveness in the classroom, in second and foreign language classrooms as well as content-based classrooms.

**Input.**

A focus on form can be achieved by providing specific types of input, including the provision of an input flood, enhanced input or metalinguistic explanation. The least obtrusive of these options is the *input flood* in which a learner is provided with input, often as written text, that contains frequent examples of the target linguistic form used in context. This teaching strategy is supported by research claiming that the more often a learner is exposed to a particular form, the more likely it is that they will learn the form (see Ellis, N., 2004). A teacher can select material based on how frequently it contains the form in meaningful context or the material could be modified to increase the frequency (e.g., Trahey & White, 1993; Williams & Evans, 1998). *Input enhancement* (Sharwood Smith, 1993) represents a greater level of intervention. It is an attempt to make forms more salient while minimizing attention drawn away from meaning. For example, written input can be typographically enhanced by enlarging, bolding or underlining target forms (e.g., White, 1998). Input can also be enhanced verbally via corrective feedback (e.g., Leeman, Arteagoitia, Fridman, & Doughty, 1995; White, Spada, Lightbown, & Ranta, 1991).

Studies have investigated the effectiveness of input manipulation in a variety of contexts with mixed results. In a study with children in an ESL program, White (1998) compared the effects of typographically enhanced input with a written input flood and found no significant difference between the two treatment groups. Lee (2007) investigated the effectiveness of text enhancement in a program with a group of young adults studying English in Korea and found positive effects on language learning outcomes. Leow, Egi, Nuevo, and Tsai (2003) compared the benefits of enhanced and unenhanced text with
university students of Spanish and found no benefits for text enhancement. Leeman et al. (1995) carried out a quasi-experimental study investigating input enhancement with adults studying Spanish via content in a university program and the results were positive when compared with entirely meaning-focused instruction. In the study by Leeman et al. (1995), however, input enhancement consisted of typographically enhanced text, corrective feedback as recasts and instructions to learners to focus on form during activities.

Another approach to manipulating input is to provide metalinguistic explanation as a “highly elaborate form of enhancing the input” (Sharwood Smith, 1993, p. 177). In Figure 2, it represents a highly explicit form of intervention that includes rule-based instruction in which learners are given explanations of the target grammar (e.g., Alanen, 1995; Radwan, 2005; Scott, 1990; Spada & Lightbown, 1993; White & Ranta, 2002). There is disagreement among SLA researchers as to the role and value of grammatical explanations in the classroom. Krashen, champion of entirely meaning-driven models of content-based language teaching, argues that grammatical instruction is of little or no value in language acquisition (Krashen, 1982). In contrast, N. Ellis (2005) argues that the provision of metalinguistic information ‘primes’ the learning process so that the form can be processed from explicit learning to implicit learning.

Empirical research situated in communicative language classrooms provides some support for an explicit focus on form that includes the provision of metalinguistic explanation. For example, White and Ranta, (2002) compared two treatments with children in an ESL program: one group was provided with meaning-focused instruction only while the other was given a rule of thumb and contrasts between the L1 and L2 were highlighted. The learners were also engaged in tasks designed to elicit discussion about the target form, described as ‘consciousness-raising’ tasks (see Fotos, 1994; Sharwood-Smith, 1980). In this study, the form-focused group performed better than the meaning-focused group on both an oral production task and a correction task requiring metalinguistic knowledge. In another recent study with adults, Radwan (2005) compared rule-driven instruction with text enhancement and content-oriented instruction and found positive results for the rule-driven group.
The provision of grammatical explanation plays a key role in Processing Instruction (PI), a model of instruction designed to help learners focus on form in a meaning-based context by addressing the structural aspects of form before learners are engaged in meaning-focused activities. This is intended to help the learner make form-meaning connections in the input (VanPatten, 1996, 2000). PI is premised on a model of second language acquisition that considers how learners process language so they are able to decode linguistic form from input when their primary attention is on meaning. The model is premised on the assertions that the capacity of working memory is limited, making it difficult for learners to pay attention to form and meaning at the same time, and that learners are driven to focus on meaning before form. In PI, grammatical explanation is used to trigger form-meaning connections in the initial stage of comprehension before moving toward any production of language. Empirical research has supported the benefits of PI when compared with output based approaches (e.g., Benati, 2005; Cadierno, 1995; Qin 2008), although the model has also drawn criticism (Dekeyser, Salaberry, Robinson, & Harrington, 2002).

Task design.

Although pedagogical tasks have commonly been defined in the task-based language teaching literature in terms of meaning rather than form (Bygate, Skehan, & Swain, 2001; Nunan, 2004; Skehan, 1996), they have also been adopted as a means of promoting an awareness of form-meaning connections. In the classroom, cooperative tasks create opportunities for learners to negotiate form and meaning when communication breaks down between them during the task, a process considered pivotal to interaction theory (Long, 1996). Tasks are also the means by which learners produce output which, according to Swain (1995), creates opportunities to notice gaps between their own output and what they want to say, and formulate hypothesis about language form and accuracy.

Tasks, have also been adopted as a means of bringing out specific linguistic forms that may not be common in classroom language and are absent in the linguistic input to which learners are exposed (Loschky & Bley-Vroman, 1993; Samuda, 2001). Loschky and Bley-Vroman (1993) argue for the use of structure-based tasks that are designed to require or elicit the use of specific language forms. They describe three ways in which a
task may require the use of a specific form: the form may arise naturally during the task (task-naturalness), it may be useful in completing a task that requires accurate language (task-utility), or it may be essential so that a task cannot be completed without the accurate use of the form (task-essentialness). This perspective reflects a skill-building perspective of language acquisition in which tasks provide a means of production that encourage restructuring of the learners’ interlanguage framework and lead to skills being automated and internalized through practice (McLaughlin, 1990). A number of studies situated in immersion and content-based classrooms have experimented with this type of task design to integrate form and meaning. Two examples are studies by Harley (1989) and Day and Shapson (1991). In both these studies, a series of tasks were designed to encourage the use of specific grammatical forms while engaging students in communicative activities focused on the content. The study by Day and Shapson also included the explanation of the grammar rules for the target feature in the study. Outcomes comparing an experimental group and a comparison group showed advantages for the treatment group on two of three measures, maintained in the delayed post-test in the Day and Shapson study though not in the study by Harley. In a similar study, Doughty and Varela (1998) combined tasks requiring the use of specific linguistic forms in a content-based English as a Second Language science class with explicit corrective recasts and found positive results for language outcomes.

An alternative perspective in task design takes into consideration the cognitive dimensions of the task. For example, Skehan (1998) draws on a model which views learner attention as a limited resource and proposes that tasks can be designed to direct learner attention and maximize a focus on form. Robinson (2003) proposes that tasks be designed in increasing complexity to approximate the demands of real-world tasks. He argues that increasing complexity in a task pushes learners to produce both complex and accurate language needed to meet the communicative demands of the task and in doing so, encourages awareness of form. A number of studies have explored how task features affect the degree to which learners focus on form during the task: more structured tasks have been found to encourage greater linguistic accuracy (Birch, 2005; Poupore, 2005).

Tasks have also been adopted as a means of creating a more explicit focus on form by inviting or directing learners to talk about language form directly rather than only using
the form while talking about a topic. Research in this area has investigated the degree to which different tasks function to encourage discussion about form while learners are engaged in meaning-based activity (e.g., Alegria de la Colina & Garcia Mayo, 2007; Garcia Mayo, 2002). Swain and her colleagues have proposed that collaborative tasks can encourage learners to reflect on form and discuss it explicitly during a meaning-focused task (Kowal & Swain, 1994; Swain, 1998; Swain, 2001; Swain & Lapkin, 2001). Yet more explicit focus on form is the aim of grammar consciousness-raising tasks in which the content of the task is a particular grammatical structure (Fotos, 1994; Fotos & Ellis, 1991). The purpose of these tasks is to raise awareness of the linguistic form and facilitate the process of noticing by making the content of the task the linguistic form itself. Ellis (2003) refers to these as focused tasks because the target feature is predetermined whereas unfocused tasks are not designed with a pre-determined form in mind. Interaction oriented tasks are unfocused but both structure-based tasks and consciousness-raising tasks are focused. Fotos and Ellis (1991) investigated the impact of a consciousness-raising task designed to encourage learners to discuss form explicitly and found that it was effective in promoting gains in L2 linguistic knowledge of a specific form. Other research was inconclusive with regard to the impact on grammatical accuracy in production (Nobuyoshi & Ellis, 1993).

Corrective feedback.

It is widely accepted in SLA that the provision of corrective feedback is an effective means of making learners aware of linguistic form. Numerous reviews of empirical research have supported this position (e.g., Nicholas, Lightbown & Spada, 2001; Long, 2007; Miller, 2003; Norris & Ortega, 2000; Russell & Spada, 2006). There is less agreement as to what type of feedback is most effective. The ways in which teachers provide feedback ranges from highly implicit to highly explicit. Lyster and Ranta (1997) documented six different ways in which teachers in four immersion classrooms provided feedback to learners. They included the following: (a) explicit correction, in which the teacher provides the correct form and an explanation of the error; (b) recasts, in which the teacher reformulates the learner’s utterance with the error corrected; (c) clarification requests, in which the teacher indicates that something is wrong and encourages the
learner to self-correct; (d) metalinguistic feedback, in which the teacher provides a grammar explanation; (e) repetition, in which the teacher repeats the error but indicates that something is wrong, for example with a rising intonation; and (f) elicitation, in which the teacher encourages learners to self-correct by repeating part of the utterance before the error or asking students to reformulate. Lyster (2002) later described the last four as ‘prompts’ to identify them as feedback that functions to encourage learners to reflect and self-correct.

The central debate regarding the effectiveness of corrective feedback is its implicit or explicit nature. Carroll and Swain (1993) investigated the effectiveness of different types of corrective feedback that varied in terms of explicitness and found that the learners receiving the most explicit feedback, in which they were told that their utterances were incorrect and were then given a metalinguistic explanation, outperformed learners receiving less explicit feedback in the form of recasts. Other studies have also compared implicit feedback operationalized as recasts and explicit feedback operationalized as metalinguistic comments and found explicit feedback to be more effective (e.g., Ellis, 2007; Ellis, Loewen & Erlam, 2006; Sheen, 2007). This comparison is relevant for the purposes of this study as recasts are considered the most meaning-focused option and would be more appropriate to a content-based context, while explicit feedback is considered less appropriate by teachers in these CBLT classrooms because it shifts the focus from meaning to form.

Much of the research on corrective feedback has focused on recasts. Long (2007) identifies over 60 descriptive, quasi-experimental, and experimental studies investigating the role and effectiveness of recasts in communicative and content-based classrooms (e.g., Anmar & Spada, 2006; Egi, 2007; Lyster, 2004; Lyster & Izquierdo, 2009; Lyster & Ranta, 1997; Mackey & Philp, 1998; Nassaji, 2009; Panova & Lyster, 2002). Overall, the studies have reported mixed results and have revealed the influence of multiple factors, including how effective recasts are for different learners, with different linguistic forms and in different contexts. For example, Mackey and Philp (1998) found positive effects for recasts for learners at higher developmental stages; Anmar and Spada (2006) also found positive effects for recasts and prompts with higher proficiency learners but only benefits for prompts (not recasts) with lower proficient learners. Lyster (2004) also reports positive
effects for prompts over recasts with learners in French immersion classrooms but no
difference between prompts and recasts with adult learners of French participating in
dyadic interaction in a laboratory study (Lyster & Izquierdo, 2009). In another laboratory
study Long, Inagaki and Ortega (1998) found positive effects for adverb placement but not
for object topicalization. An important finding in the corrective feedback literature is that,
while recasts are the preferred choice of feedback provided by teachers in content-based
classes (Lyster, 1998; Lyster & Ranta, 1997; Zyzik & Polio, 2008) learners in these
classrooms are less likely to notice them as corrective feedback (Lyster, 1998; Lyster &
Ranta, 1997). In a review of recast studies, Nicholas, Lightbown and Spada (2001) note
that learners in content-based classes may not notice recasts because the instructional
focus is on meaning. That is, they may assume that the teachers’ reformulations via recasts
are simply another way of saying the same thing rather than a correction in form. In
contrast, research on corrective feedback in foreign language classrooms in which a focus
on form is primary has revealed that recasts are noticed by learners as feedback on the
form/accuracy (e.g., Lyster & Mori, 2006; Sheen, 2004). These conflicting findings
underscore the importance of considering the instructional context in the interpretation of
results (Spada & Lightbown, 2008).

_Awareness and Attention_

While much SLA research has been premised on the belief that attention is
essential for second language learning, an increasing number of studies have investigated
the underlying assumption on the part of researchers (and teachers) that learners do indeed
attend to meaning and form when directed to do so. These studies pose the questions:
What do learners pay attention to or notice in instruction? Do learners actually notice or
attend to target forms? Is attention a matter of degree? How does degree of attention affect
processing? How can this be indentified and measured? While the primary goal of the
present study is concerned with learning outcomes, the study also explores the question of
learner awareness of and attention to form in a CBLT classroom and what effect learner
awareness has on language and content learning.
Questions about awareness and its relationship to learning have been approached from multiple perspectives. Schmidt (1990, 1995) examines awareness and attention in relation to consciousness and distinguishes between awareness as ‘noticing’ and awareness as ‘understanding’: noticing is defined as “conscious registration of the occurrence of some event”; understanding is “recognition of a general principle, rule or pattern” (Schmidt, 1995, p. 29). He situates attention at the level of ‘noticing’ and argues that this attention is required as the first step in all learning. Accordingly, if learning is occurring, the learner should be consciously aware of attending and be able to report the experience.

An alternative perspective is proposed by Tomlin and Villa (1994) who agree with the premise that attention is necessary but suggest that other attentional processes may be more critical than noticing. They elaborate on the role of attention to include processes of alertness, orientation, and detection. Tomlin and Villa use alertness to describe the state of an individual who is ready to perceive data, the first and most basic element to any learning process whereas orientation describes an individual’s bias to pay attention to one type of information over another. They cite the work of research showing how a learner’s orientation can be manipulated; participants in their study interpreted the meaning of a homograph they were exposed to differently depending on the other words they were exposed to in the same activity. Detection, within this framework, is considered a process related to a specific instance of attention. Tomlin and Villa’s position is that alertness and orientation facilitate detection. A learner who is alert and oriented toward a particular type of instruction, for example grammatical forms, is in a position to detect those forms and having done so may become aware of this detection, and ‘notice’ the input. With regard to awareness, however, they argue that none of the three components of attention requires awareness in order to operate. This argument stems from the definition of awareness as a process that can be reported in some way by the learner. They cite research suggesting that learners can undergo cognitive processing, for example, reading a particular word more rapidly than another, without being able to report awareness of the experience. However, according to Tomlin and Villa, in order for a learner to be aware of learning, the three attentional components must be present: a learner must be alert, must be oriented and have detected the input. With regard to investigating the internal processes of learner attention,
this model suggests that in addition to uncovering what learners noticed by asking them to report their experiences, research should also attempt to establish the orientation that may influence what they notice. For example, if a learner is oriented towards content, this will play a role in their attentional processes and influence whether or not they will notice a focus on form when encouraged to do so.

Robinson (1995) suggests a perspective that encompasses both Schmidt’s noticing hypothesis and the position of Tomlin and Villa. He defines noticing as a process that involves both detection and rehearsal in short-term memory. Learning is initiated in detection, consistent with Tomlin and Villa’s position, and becomes awareness when it reaches a threshold of processing in short-term memory. This position acknowledges a role for detection but also the necessity of conscious noticing.

The role of attention in L2 learning has also been approached by some SLA researchers from a limited capacity model. The assumption is that when an individual is confronted with multiple demands on attention, the ability to pay attention to multiple features in input is limited and to deal with this limitation, language learners strategically allocate attention (e.g., Skehan, 1998; Skehan & Foster, 2001; VanPatten, 1990). VanPatten argues that learners “are driven to process referential meaning before anything else when involved in communicative exchanges” (1994, p. 32). In other words, learners can pay attention to form when they are familiar with the content. His research has revealed that when an individual’s attention is directed to linguistic form in a task, the learner is less able to effectively pay attention to meaning (VanPatten, 1990). The implication of these findings for content-based language teaching is that learners will not notice linguistic form unless they are directed in some manner to do so.

**Measuring Awareness and Attention: Awareness Protocol**

One of the earliest attempts to investigate the question of learner attention and awareness of instruction was research conducted by Allwright (1984) who was interested in the gaps between what the teacher intended to teach and what learners learned. He described a study in which learners were asked to identify the focus of a given lesson and found that different learners reported seeing the lesson differently, from both each other
and the teacher. He proposed a method of investigating this phenomenon and the link to learning as a three-stage process. In the first stage, the learners were asked to report in writing any points that arose in the lesson. Then, they were asked to return to that list an hour later and identify what they believed they had actually learned. This was followed up with an interview to probe for further information. This information was then tracked against a transcript or tape of the actual lesson to identify the ‘learning opportunities’ learners responded to most. This three stage process laid the ground work for the development of a number of ways of investigating what learners’ perceive or ‘take up’ in a lesson.

Since Allwright’s (1984) early work, empirical studies have employed a variety of protocols in an attempt to investigate learners’ perceptions during instruction (see overviews by Egi, 2004; Ellis, 2005; Mackey & Gass, 2005). These protocols are broadly classified as either concurrent, taking place during the task or instruction, or retrospective, occurring after the task is completed. Concurrent measures include think-aloud protocols in which a learner is asked to verbalize thought processes while completing a task and their talk is recorded for analysis (Alanen, 1995; Bigelow, 2000; Leow, 1997; Rosa & Leow, 2004; Rosa & O’Neill, 1999). Other concurrent protocols include uptake charts in which learners check off what they believe they had learned or noticed during the task (Mackey, McDonough, Fujii, & Tatsumi, 2001). Retrospective measures include stimulated recall in which learners are shown a record of the experience, either by video, audio or other prompt, and then they are asked to recall what they learned or noticed during the task (e.g., Mackey, 2006; Nabei & Swain, 2002). Uptake recall charts have also been used as retrospective measures (e.g., Palmeira, 1995; Slimani, 1989, 1992). They are similar to concurrent uptake charts but are completed after the event. Questionnaires have also been used either on their own or to debrief learners after one of the other measures and in this way to provide triangulated data (Mackey et al., 2001; Slimani, 1989, 1992).

Each of these protocols presents its own challenges with regard to validity. Jourdenais (2001) summarizes a number of concerns including the issue of learner memory and ability to recall details in instruction; the possibility that learners may try to anticipate a ‘correct’ response; the degree to which the protocol encourages learners to recall some information or experiences but not others; and questions about the learner’s
ability to talk about language learning metalinguistically. Mackey and Gass (2005) describe methodological issues such as the practicality of recording speech in the classroom for verbal think-aloud protocols and the time consuming nature of diary studies. With regard to verbal reports, Egi (2007) discusses the issue of reactivity as the effect that the act of verbalizing may have on the participant’s learning. Robinson (1995) points out that “measures of awareness are difficult to operationalize given that: (a) the experience of noticing may be fleeting and thus difficult to recall; and (b) one may be aware of, yet unable to verbalize or otherwise articulate the nature of that which one is aware of” (Robinson, 1995, p. 229).

Despite the issues raised regarding validity, report protocols have been widely adopted by SLA researchers interested in detecting noticing. This is an important first step for research that is premised on the assumption that noticing is essential to language acquisition. The next step is to determine if what has been noticed has any relation to the teaching goals and has any influence on learning.

**Language Awareness and Language Learning: Empirical Evidence**

A number of quasi-experimental studies investigating awareness using various protocols have reported a link between the content of learners’ reports as indications of awareness, and language post-test outcomes. For example, in a study by Palmeira (1995), learners completed recall uptake charts in which they were asked to identify what they had learned according to three categories: grammatical structures, lexical items, and content. The instructional focus in the classroom was on two target structures with little focus on vocabulary and content. In the uptake charts, learners indicated that they had noted the grammatical forms more often than they indicated the lexical or content items. In addition, the number of learners reporting a particular grammatical item corresponded positively to the number that responded correctly to that grammatical item on the post-test. Palmeira (1995) concluded that there was a strong correlation between noticing and learning but that the method of reporting, referring to form in the charts, might have directed learners to focus on structure as a focus of the lesson.
Mackey (2006) used stimulated recall protocols in which learners were asked to identify the goal of a specific classroom activity designed to focus on form and a questionnaire eliciting what they had noticed in the activity. Post-test outcomes showed a positive correlation between the learners’ report of noticing a particular language form and the learning of that form as measured by the post-tests. However, this was the case for only one of the targeted forms, questions, and not for the other, past tense. Mackey suggested that this might be related to the greater syntactic complexity of questions over past tense forms. That is, question formation may be more salient to learners than past tense formation because it requires the learners to make syntactic changes rather than less complex morphological changes such as adding a suffix for the past tense ending.

Several studies have used awareness protocols to distinguish levels of awareness. Rosa and O’Neill (1999) used a think-aloud protocol during a reading task and analyzed the data to determine different levels of awareness among the participants: awareness as noticing and awareness at the level of understanding. Noticing was operationalized as verbal references to the target grammar during the think-aloud while understanding consisted of verbalization of grammar rules. They investigated the relationship between these levels of awareness and language outcomes measured in a written recognition task and found that learners who verbalized rules made greater gains on the post-tests than those who did not.

Radwan (2005) used a think-aloud protocol and questionnaires to measure awareness with learners exposed to different instructional treatments: implicit FFI (textual enhancement), explicit FFI (rule-driven instruction), and meaning-focused instruction with the same content but no attempt to focus on form. In this study, learners were asked to participate in think-aloud protocols while completing an oral task and to complete a questionnaire after completing the task. The questionnaire asked learners to indicate if they had noticed a focus on grammar in the instruction and then to explain the grammar rules. The first question was intended to assess awareness at the level of noticing while the second question, asking for a grammar explanation, was intended to assess awareness as understanding. Analysis showed that the learners who were indicated awareness at the level of noticing did not show greater gains on post-test measures than those who did not, whereas awareness as understanding did correlate positively with language outcomes.
Radwan suggested that noticing and understanding, as different levels of awareness, corresponded to different levels of processing with the meta-awareness of understanding being the deepest level of processing.

Leow (1997) also distinguished between levels of awareness. He analysed think-aloud reports produced by learners while completing a crossword puzzle and found that learners who indicated a greater meta-awareness demonstrated greater gains on post-tests of recognition and written production tasks, than those who did not exhibit that level of awareness. Leow coded the reports to indicate three levels of awareness: verbalizing about the target grammar, verbalizing that indicated awareness of a rule driving the use of the form, and verbalizing the rule. He concluded that different levels of awareness contributed to different levels of processing and therefore different learning.

**Empirical Studies Investigating Language and Content Outcomes**

Research situated in content-based classrooms in French immersion and adult academic programs has shown that it is possible to learn both language and content via instruction that includes attention to both. Research in FFI has provided evidence that when learners’ attention is drawn to form in a communicative context, they can improve their grammatical knowledge and linguistic accuracy. However, research investigating the learning of content knowledge and language form via FFI has been primarily situated in school-based programs for children. Few studies have been carried out in a content-based language program for adults.

Only one study, to my knowledge, has been carried using a quasi-experimental, pre/post/delayed post-test design to measure both content and language outcomes for adults in a content-based language program. Grim (2008) investigated the effects of FFI with 152 university students studying in the second and third semesters of a French language program described as content-enriched. The study compared the effects of three treatments: planned focus on form, incidental focus on form and focus on meaning. The planned focus on form group received enhanced input: written material with the target lexical and grammatical forms enhanced in bold and colour, and planned grammar explanations during instruction. The incidental focus on form group received the same
material but with no enhancements and only incidental grammar explanations given in response to students’ questions. The meaning-focused group received the same material with no enhancements and no attention to form from the teacher. Different target forms were chosen for the second and third semester students: comparative/superlative adjectives for the second semester students and relative prepositions for the third semester students. The content drew from the same areas: geography and cultural knowledge. A fill-in-the blanks and a short paragraph-writing task were used to test lexical and grammatical development while content outcomes were measured with a test of short-answer questions. When the outcomes were compared across treatments and between second and third semester students, the results indicated a significant advantage on both the content and language measures for the second semester students receiving planned FFI, though no gains were maintained in the delayed post-test. For the third-semester students, significant advantages were revealed for the planned FFI group but only on the lexical post-test; no significant differences were found on any of the other measures. Grim concluded from these findings that learners benefitted from the inclusion of FFI in a content-enriched program, in the short term, and that FFI did not negatively affect content learning. The evidence regarding grammatical form, however, was limited to the first semester group. These findings suggest that FFI is effective as a means of integrating language and content and achieving outcomes in both, at least in the short term. In the long term, learners gains were not maintained, which Grim suggests may be related to the short duration of the treatment, only 50 minutes.

In addition to the study by Grim (2008), a number of studies premised on a model of attention as limited in capacity have investigated how a learner’s ability to focus on content is affected when they are directed to focus on form. Unlike the present study, these studies have not been carried out in intact classes with a dual focus on content and language. Yet, they offer evidence of how specific FFI options might affect content as well as language learning. For example, Leow (1997) investigated the effect of text enhancement on content comprehension in a study with adult learners of Spanish. The results showed that text enhancement had no affect on comprehension of content or language intake. A later study examined the effect of text enhancement with two different grammatical forms (Leow, Egi, Nuevo , & Tsai, 2003). The results showed that text
enhancement had an effect on the learning of one of the forms but not the other and still no effect on content learning. In contrast, Lee (2007) investigated the same FFI option in a program with a group of young adults studying English in Korea and found that text enhancement had a negative effect on comprehension of content as measured by recall but a positive effect on language learning outcomes. In another study with adult learners of French, learners were able to recall more of the information when it was enhanced in the text (Wong, 2003).

**Implications for the Present Study**

The research questions guiding the present study are concerned with form-meaning connections framed by the relationship between content and language and situated in classroom instruction that integrates FFI with content-based teaching. The literature review shows that early research in classrooms designed to integrate a focus on content with a focus on language has been positive: Canadian French immersion classrooms showed that students improved their language proficiency and continued to achieve academically, while studying content in an additional language (e.g., Genesee, 1987; Swain & Lapkin, 1981). Research in European CLIL programs has also reported favourable results for both language learning and academic achievement (e.g., Van de Craen, Mondt, Allain, & Gao, 2007) and studies situated in university programs with adults have shown gains in both language proficiency and content mastery (e.g., Burger & Chretien, 2001). The role of meaning was primary in these classrooms and much of the instruction was guided by the assumption that language acquisition is a by-product of content mastery. Yet, when researchers took a closer look at how language proficiency has been defined and measured in some of these contexts, evidence emerged that not all areas of proficiency were in fact well developed (e.g., Harley, Cummins, Swain, & Allen, 1990; Harley & Swain, 1984; Swain, 1985). This raised the question as to why meaningful input via content-based instruction may not enable learners to develop sufficiently high levels of L2 knowledge and ability in all aspects of their L2 proficiency.

While the value of meaningful input is widely accepted in SLA practice and research, an extensive body of research has investigated the role that conscious attention
to form may play in language learning, specifically with regard to developing linguistic accuracy in meaning-based classrooms. Research investigating the effectiveness of FFI has generally shown that a focus on form and meaning is more effective than a focus on meaning alone. However, the impact of numerous variables has also emerged, including how a focus on form is implemented, when it is introduced, whether the effectiveness of FFI depends on the type of language feature taught, and what type of knowledge results from FFI. Questions such as these continue to set the agenda for research in FFI (see Ellis, 2001, 2002; Ellis et al., 2006; Norris & Ortega, 2000; Spada & Lightbown, 2008; Spada & Tomita, 2010; Williams, 2005). Most significantly, for the present study, context has emerged as an important variable that can influence the effectiveness of different options in FFI. An example of this is the effectiveness of recasts which have been found to be effective in laboratory contexts where the feedback is more salient than in content-based classrooms in which learners may not notice recasts as corrective feedback (e.g., Lyster & Ranta, 1997; Nicholas, Lightbown, & Spada, 2001). Another example is the use of tasks that require learners to talk explicitly about the form: some researchers argue that such tasks are appropriate in foreign language programs in which learners are already inclined to focus on form (Fotos & Ellis, 1991).

The present study brings context to the foreground. A great deal of the research in the FFI literature has been carried out in communicative foreign and second language classrooms with a ‘weak’ role for content, driven by themes or topics. When situated in content-based classrooms with a ‘strong’ focus on content, it has primarily been carried out in academic contexts such as school-based immersion and university programs. There is no empirical research, to my knowledge, which has investigated the effectiveness of a focus on form in a classroom with adults studying vocational language for employment. This context presents a unique opportunity to investigate how learners respond to a focus on form when engaged in what may be considered a high-stakes educational endeavor, i.e., learning language and content for their livelihood. While the present study does not intend to contrast the vocational context with the academic context, evidence of effective FFI in this additional context would be a valuable addition to the existing research literature on CBLT. The current body of research suggests that the context will demand
specific options but will show that a focus on form and meaning is more effective than a focus on meaning alone. The first hypothesis of the present study is:

\[ H_1: \text{Introducing a focus on form in a meaning-focused content-based language program will result in greater gains in grammatical knowledge, as measured by written grammar correction and cloze tasks and picture-elicitation oral production tasks, than instruction focused on meaning alone.} \]

An aspect of the content-based classroom that distinguishes it from other communicative classrooms is the concern with content learning, either on the part of the learner or on the part of both the learner and the program. Early research in immersion classrooms asked: does a focus on form have a negative impact on content learning? Studies in immersion classrooms have shown that, when compared to non-immersion students, academic achievement is not negatively affected. Other research, however, has taken a more fine-grained approach and has investigated how specific options affected learner attention to content. Studies such as these have had mixed results with some research showing that comprehension of content was negatively affected by what is widely considered an implicit option in FFI, input enhancement (Lee, 2007), and other research showing that the same option appeared to enhance content learning (Wong, 2003). Only one experimental study, to the best of my knowledge, has explored this question in a content-based classroom with adult learners: Grim (2008) found that explicit FFI did not negatively affect content outcomes. Further research in CBLT is needed.

Drawing on the existing research, the second hypothesis investigated in this study is:

\[ H_2: \text{Introducing a focus on form in a meaning-focused content-based language program will have no effect on content learning, as measured by discrete point content knowledge tests, when compared with instruction focused on meaning alone.} \]

Related to both the learning of content and language is the question of attention and awareness. The essential role of conscious awareness has been widely accepted in SLA. Yet more research has been carried out premised on this belief than attempting to investigate the construct itself. Some researchers have explored how internal learner
processes related to attention and awareness can be captured and measured and, furthermore, if they can be linked to the process of learning (see overviews by Egi, 2004; Ellis, 2005; Mackey & Gass, 2005). There is evidence that awareness of form, as reported by the learner, correlates to gains in language learning (e.g., Mackey, 2006; Palmiera, 1995; Rosa & O’Neill, 1999). This body of research, however, is limited, and has not included measures intended to capture an awareness of content as well as language, as in the present study. Awareness of content is important in the present study because of the concern that a focus on language detracts from a focus on content. Along these lines, the present study investigates the following two hypotheses:

H₃: Learners will be able to report awareness of both content and language in instruction that includes both a focus on grammatical form and content meaning.

H₄: Learners reporting higher degrees of language awareness will show stronger outcomes on the language measures than learners who report a lower degree of awareness.

The present study has been designed to investigate each of these hypotheses in a content-based program preparing adult learners for employment in the field of Early Childhood Education.
Chapter Three: Methodology

Overview

The research questions of the present study were investigated via a quasi-experimental comparative study that utilized pre-test, immediate and delayed post-test measures and was conducted over a 27-week period. The study was carried out in a program of content-based language instruction for adult newcomers preparing for work or education as professional childcare providers. A total of 36 adult learners participated in the study, attending one of two classes. One group of learners received FFI integrated with content while the other group received meaning-based instruction only. Language outcomes and content learning were measured, as well as awareness of language and content during instruction.

This chapter describes the methodology used in this study. It begins with a description of the program in which the study was conducted and the research participants. It outlines the research schedule and describes the constructs underlying the instructional intervention designed for the two groups of participants in the study. This includes examples of pedagogical tasks, strategies, and materials designed to differentiate form-focused (FF) and meaning-focused (MF) instruction in this study. The chapter also provides a detailed description of the awareness measures and data collection procedures. It concludes with a description of the framework and the procedures developed to score and code the data in preparation for analysis.

Instructional Context

Program Setting

In Canada, publicly funded non-credit language programs are available to adult newcomers who speak English as a second or other language. They are delivered by a variety of providers including school boards, community agencies, and vocational colleges
and they are commonly designed to focus on language instruction related to settlement. In recent years, additional government funding has been allocated for language programs designed to address the employment needs of adult newcomers in specific work sectors. These programs offer specialized language training intended to prepare newcomers with the language skills necessary to find employment or access training in a specific occupation sector. They link language training with vocational preparation. Some examples of these sectors are engineering, healthcare, accounting, and education. This study was carried out in such a program, providing specialized language training for newcomers preparing for employment in the field of Early Childhood Education (ECE). It was offered within a non-credit adult education program operated by a school board in Toronto, Ontario.

As a non-credit, publicly funded language program, it is language driven: language proficiency is assessed for placement in the program and language outcomes are assessed as an indicator of success; content outcomes are not formally assessed or documented. Teachers in these programs are ordinarily language experts with an understanding of content-based language teaching strategies as opposed to content experts. However, as a program designed to meet occupation-specific needs of adult newcomers preparing for employment, it is also content-driven: the content determines the language addressed in planning and teaching; course goals are expressed as clearly situated within the context of the specific employment sector and linked to an understanding of content matter. Partnerships with employers or accredited training programs are encouraged and content experts are usually consulted in the development of the teaching materials. In addition, while many of the programs are intended for newcomers with previous training and experience in the sector, a number of learners with no experience or training enroll in an effort to become familiar with the employment requirements of the sector and prepare for further accredited training and education. These individuals recognize the need for improved language skills, but are also highly focused on the content. For these reasons, the program under investigation in the present study constitutes a dual focused program of content and language.

At the time of this study, adult learners in this program attended 200 hours of instruction over a 40-week period. Classes were held for 5 hours per week, either on
Saturdays once a week, or in the evenings, twice a week. Upon registering in the program, learners’ English language proficiency was assessed using a competency-based assessment tool\(^1\) in order to place them in a course at the appropriate level. In addition, each learner was interviewed regarding their professional background and goals to ensure that these were compatible with the program mandate.

**Program Syllabus**

The mandate of this program was the development of language skills that would support the learners’ employment goals in the field of Early Childhood Education. The syllabus and material had been developed by the course teacher. The syllabus was content-driven with instructional matter organized as units of occupation-specific content knowledge (see Appendix A). This includes professional knowledge such as developmental stages of children, behaviour management techniques used in childcare centres, and how to plan an age-appropriate learning program for children. Learners are exposed to linguistic input while engaged with the occupation-specific content. Explicit reference to language form is commonly limited to lexical forms and feedback most often addresses content. When the teacher provides feedback to learner errors in language, it is commonly delivered via recasts by reformulating learners’ incorrect utterances while retaining the focus on the meaning. The following exchange between a learner and the teacher illustrates the use of a recast in this type of program:

T: Why didn’t she come to school?

L: She is sick yesterday.

T: Oh, she was sick yesterday. [recast]

The role of recasts in this study will be discussed in more detail when I describe the instructional treatment.

\(^1\)The Canadian Language Benchmarks Placement Test (CLBPT) is an assessment tool aligned to the Canadian Language Benchmarks (CLB), a descriptive scale of communicative proficiency in English as a Second Language expressed as 12 benchmarks. Development and implementation of the CLB is funded by the Government of Canada and managed by the Centre for Canadian Language Benchmarks (see Pawlikowska-Smith, 2000 for more detailed information).
Participants

At the onset of the study, a total 42 adult learners, 41 women and 1 man, agreed to participate. They were enrolled in one of two intact classes in the program. One class had 18 learners and the other had 24. Of the original 42, a total of 36 learners completed the study, 16 in the Saturday class and 20 in the evening class. Eight of the learners left the program during the period of the study. All the learners were asked to complete a questionnaire in order to gather profile information about the individuals and the groups (see Appendix B). The following profile emerged from the data. The majority had completed post-secondary education in their countries of origin. A total of 18 different languages were reported as the first language spoken by the participants; the most commonly reported languages were Mandarin, Cantonese, Bangla and Tamil: approximately 50% of the learners reported one of these languages as a first language. The majority of the participants had prior work experience in the field but had not had prior training or education in professional childcare. Just over half of the learners had studied English for over eight years outside of Canada and less than three years in Canada. They had been assessed as having low-to mid-intermediate proficiency within a range of language proficiency benchmarks 3 to 5 as assessed on the Canadian Language Benchmarks (CLB) Placement Test.

The teacher was a key participant in the study. She was a certified ECE practitioner who has been employed in childcare for many years and a qualified language teacher with several years experience teaching language training to adults in this program. As such, she had expertise in language teaching and an expert knowledge of the content. She developed the original course, taught both classes, and played a consulting role in the selection of the target features and the development of the instructional material for the study.

Research Design

This classroom-based study used a quasi-experimental, pre-test, immediate, and delayed post-test design. The research questions were investigated by comparing the effects of two different instructional treatments on language and content learning.
outcomes in this particular teaching context. A learner awareness protocol was developed to investigate learner awareness of language and content in their instruction.

**Schedule**

The study took place in two intact language classes over 27 weeks of a 40-week program. Both classes were designed for learners in the same range of proficiency levels, CLB 3 to 5, low- to mid-intermediate, but were offered at two different times so that learners could select a class based on their availability. Both classes met for 5 hours per week, all day Saturday or 2 evenings per week, and both classes were taught by the same teacher.

Upon completion of the ethical review, the program coordinator, the teacher and the learners in both groups were asked for consent to participate in the study. All the learners enrolled in both groups gave consent. Learners were then asked to complete a questionnaire about their educational and professional backgrounds. Pre-tests to assess language and content knowledge were completed over a period of three weeks. As they were completed during class time, it was necessary to conduct them over several classes. This reduced the disruption to individual lessons and made it possible to test learners who had not attended every class. Likewise, the post-tests and delayed post-tests were conducted over two weeks of class.

The two classes were randomly assigned as either the group receiving FFI, hereafter referred to as the FF group, or receiving only meaning-focused instruction with no FFI, hereafter referred to as the MF group. The Saturday class was selected as the FF group and the evening class was selected as the MF group. Both groups began the program four weeks before the study began. During this period, the teacher reported teaching both groups with a focus on meaning only and no focus on form. This was the teacher's stated preferred style of teaching. The differentiated instruction took place over 10 weeks between the pre-tests and the post-tests. The teacher was given instructions and material to continue providing meaning-focused instruction to the MF group and differentiated instruction to the FF group during these 10 weeks. During the period between the post-tests and the delayed post-tests, approximately 13 weeks, she was
explicitly asked not to provide any focus on form to either group. In order to monitor the instructional treatment, all the lessons for both groups from pre-test to post-test were audio recorded and the data coded to identify a focus on language form or content.

During the instructional phase, two other activities were completed: awareness protocol and content tests. The awareness protocol was designed to explore learners’ awareness of the focus on language and content in the classroom. Immediately after the three target lessons, learners in both the FF and MF groups were asked to complete a brief report designed to assess their focus during the lesson. The content tests were used to measure retention of content knowledge in the ECE course. They were completed by learners in both groups immediately after the units of content were completed.

The research schedule in Table 1 provides an overview of the primary activities over the 27 weeks of the study.

Table 1

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2 &amp; 3</td>
<td>Consent forms; learner questionnaire; language pre-test measures, content pre-test; audio recording of instruction begins</td>
</tr>
<tr>
<td>4 to 13</td>
<td>10 weeks differentiated FF and MF instructional treatment; learner awareness protocol (three reports); three content tests</td>
</tr>
<tr>
<td>14 &amp; 15</td>
<td>Language post-test measures; audio recording ends</td>
</tr>
<tr>
<td>16 to 25</td>
<td>Same meaning-focused instruction, with no FFI for either group</td>
</tr>
<tr>
<td>26 &amp; 27</td>
<td>Delayed language post-test measures</td>
</tr>
</tbody>
</table>

**Target Features**

Two grammatical features were chosen as the target features for this study: the *simple past tense* and the *real conditional*. These forms were selected based on two
criteria: their frequency in the input and the proficiency level of the learners. An examination of the syllabus revealed that a number of forms intersected with the content frequently and occurred naturally in tasks and material related to specific topics. Selecting frequently occurring forms was intended to maximize the opportunities for FFI throughout the instructional period. In considering the proficiency level of the learners, the goal was to select forms that were familiar but had not been mastered by the majority of the learners. While the proficiency level of the learners overall was intermediate, some were entering this stage of proficiency while others were at a mid-intermediate stage. Two forms were chosen in an attempt to accommodate this range of proficiency. It was expected that the learners would vary in terms of familiarity with each form but neither level would have mastered both. In addition, while the primary interest in this study was not to compare the differential effect of FFI on two linguistic forms, these two forms challenge learners differently. The simple past tense is structurally simpler than the real conditional. Accurate formation of the simple past tense involves morphological change (i.e., adding the suffix ed), while forming the real conditional requires syntactic transformations (i.e., constructing subordinate clauses). They also differ in semantic complexity: the simple past tense carries temporal meaning, the notion of an event in the past and not the present, and differentiation of aspect, the difference between simple past and present perfect. The real conditional, however, indicates a relationship of cause and effect within the present and future that is qualified in terms of certainty or possibility by the use of a modal.

The target content drew from three areas of professional knowledge: Behaviour Management, Child Abuse, and Safety. These were selected because the target linguistic forms occurred most frequently during these units in the course. For example, the simple past tense is used when describing accidents in the unit on safety: The boy fell in the playground and scraped his knee. In the unit on behaviour management, the content intersects with the real conditional form as follows: If children fight over a toy, the teacher should remove the toy until they behave.
Instruction

During the 10-week period of the instructional treatment, both groups followed the same content-driven syllabus focusing on ECE knowledge. One group, however, received content-based instruction integrated with a focus on form targeting two specific grammatical features while the other received instruction that was entirely focused on meaning/content derived from the ECE syllabus. The FF instruction consisted of:

1. Metalinguistic explanations: The teacher was given explicit explanations of the grammar to present to the class (see Figure 3 for sample).

2. Form-focused tasks: This consisted primarily of task instructions adapted to direct learners’ attention to the importance of accuracy in form as well as content (see Figure 4 for sample tasks).

3. Explicit corrective feedback on form: The teacher was asked to correct learners’ errors by explicitly stating that they were incorrect and asking learners’ to explain the error and correct it by referring to grammatical components and terms explicitly. For example, in response to a learner error, the teacher replied: “Use ‘bites’. The verb must be in the present tense in that part of the sentence.”

The MF instruction consisted of:

1. No metalinguistic explanations or reference to grammar: Language structure was modeled via delivery of the content but never referred to by the teacher.

2. Content-focused tasks with no reference to grammar: Learners were asked to complete tasks by providing the correct content.

3. Implicit corrective feedback via recasts: The teacher responded primarily to learners’ errors in content. When she responded to errors in language, she did so by reformulating them as correct utterances while maintaining the focus on content. For example:
L: She (the child) was attaching to me.

T: She was attached to you.

Recasts are commonly used by teachers in content-based language classrooms; however, there is evidence suggesting that learners may not perceive recasts as feedback on form but rather as feedback on meaning (Lyster, 1998; Lyster & Ranta, 1997). The teacher participating in this study clearly described her own teaching style as content-driven and strongly meaning-focused and stated that when she provided corrective feedback, she preferred to use recasts. She believed that an explicit focus on language had a detrimental effect on learners’ motivation and thus, she tended not to refer to form explicitly unless she focused on vocabulary as professional terminology. This was confirmed in classroom observations prior to the intervention.

Prior to the instructional intervention, the default approach to lesson planning and instruction by the teacher was to focus on the content of the course, a series of topics related to professional childcare. For this study, target lessons were selected focusing on the content and then adapted to include a focus on form. Figure 3 provides an example of how a lesson designed for the meaning-focused group was adapted to include a focus on form for the FF group. This lesson was delivered during a unit on behaviour management. It was designed to be taught in one week to both groups and the teacher was provided with detailed instructions and material. The figure illustrates how the same content-based lesson was taught differently for the two groups. The text in the centre contains the instructions followed by the teacher when teaching the MF group. The adaptations are contained in the call-outs. They consist primarily of adaptations made to teaching strategy and methodology to draw attention to language form. For example, the teacher directed the learners’ attention to one of the target forms visually by writing it on the board and providing metalinguistic explanations verbally.
- Elicit definitions of punishment and discipline and write responses on board.
- Ask learners (Ls) to look up definitions in dictionary and discuss.
- Discuss as a class and clarify definitions.
- Ask Ls to search online for regulations on behaviour management techniques.
- Model how to paraphrase information with sample regulation.
- Assign Ls in pairs to paraphrase specific sections and then to present to class.
- Distribute Handout 1, elicit sample answer, ask Ls to complete and discuss.
- Distribute Handout 2, copy of daycare policy, ask Ls to match policy with regulation and then to discuss as a class.
- Introduce 15 standard behaviour management techniques acceptable by law.
- Ask Ls to rank them according to how frequently they should be used.
- Distribute Handout 3, case studies, and ask Ls to select appropriate technique for each behavioural case.

While Ls complete handout, ask individuals to write answers on board. Review each sentence with Ls, eliciting corrections to both content and grammar. Provide explicit grammatical explanation for each correction.

Ask Ls to identify grammar used in first sentence and underline verbs in each sentence. Direct Ls to note modals, elicit different modals and write them on board. Elicit meaning and usage of different modals with explicit explanation.

Write the answer to item 1 on board and probe for grammar by asking: What kind of sentence is this? What do we call this grammar? Why is it used? Give explicit responses and circle target grammar in target sentence as they are described, e.g., verb, modal. Explain relationship between grammar components of sentence explicitly.

Figure 3. Lesson adaptation.
In addition to adapting instruction to include opportunities for metalinguistic explanation and error correction, written tasks were also adapted to focus on form. Figure 4 illustrates how a written task designed with a focus entirely on content/meaning was adapted to include a focus on form. This task was completed during the unit on child abuse.

**Figure 4. Written task adapted for a focus on form.**

In order to confirm that the instruction had been carried out according to the research plan, the lessons between pre-tests and post-tests were digitally recorded. The data were coded to identify the focus of the instruction and the type of FFI provided to the learners.

Table 2 summarizes the instructional activities planned for the 10 weeks. The instruction received by both the MF and the FF group is indicated. Each of the FFI lessons designed to provide metalinguistic explanations and form-focused tasks are included, and the target linguistic form is indicated in parentheses. The awareness reports and content tests, with the content area specified, are also included.
Table 2  
*Research Schedule for 10-week Instructional Period*

<table>
<thead>
<tr>
<th>Week</th>
<th>Activities</th>
</tr>
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</table>
| 1st   | MF group: content instruction with implicit corrective feedback, i.e., recasts  
      | FF group: content instruction with implicit and explicit corrective feedback  
      | First awareness report completed by both groups                                                                                               |
| 2nd   | MF group: content instruction with implicit corrective feedback, i.e., recasts  
      | FF group: content instruction with implicit and explicit corrective feedback  
      |                                                                                                                                             |
| 3rd   | MF group: content instruction with implicit corrective feedback, i.e., recasts  
      | FF group: content instruction integrated with FFI (target form: conditional) with implicit and explicit corrective feedback  
      | Second awareness report completed                                                                                                          |
| 4th   | MF group: content instruction with implicit corrective feedback, i.e., recasts  
      | FF group: content instruction with implicit and explicit corrective feedback  
      | First content test completed (target content: Behaviour Management)  
      |                                                                                                                                             |
| 5th   | MF group: content instruction with implicit corrective feedback, i.e., recasts  
      | FFI group: content instruction integrated with FFI (target forms: past tense and conditional) with implicit and explicit corrective feedback  
      |                                                                                                                                             |
| 6th & 7th | MF group: content instruction with implicit corrective feedback, i.e., recasts  
      | FF group: content instruction with implicit and explicit corrective feedback  
      | Second content test completed (target content: Child Abuse)  
      |                                                                                                                                             |
| 8th   | MF group: content instruction with implicit corrective feedback, i.e., recasts  
      | FFI group: content instruction integrated with FFI (target form: conditional) with implicit and explicit feedback  
      | Third awareness report completed                                                                                                          |
| 9th & 10th | MF group: content instruction with implicit corrective feedback, i.e., recasts  
      | FFI group: content instruction with implicit and explicit corrective feedback  
      | Third content test completed (target content: Safety)  
      |                                                                                                                                             |
**Data Collection Instruments**

In order to assess the effect of FFI on content and language learning, quantitative data were gathered using content and language outcome measures. Content knowledge was measured via a pre-test and three additional content tests administered during the instructional intervention. These tests consisted of true/false, multiple-choice, and short-answer questions.

Language outcomes were measured with four tasks including two paper and pencil tasks and two oral tasks:

1. an error correction (EC) task assessing knowledge of both target linguistic features
2. a cloze task assessing knowledge of both target features
3. two oral production tasks (OPT), each measuring the ability to use one of the two target features

A variety of measures was developed in order to provide a fuller assessment of the learners’ grammatical knowledge and ability under varying conditions. The measures included selected response tasks, limited response tasks, and extended production tasks. Those tasks that called for responses that are more limited require learners to draw on knowledge of grammar form. The extended production tasks draw on knowledge of form and an understanding of grammar in use (see Purpura, 2004 for an overview). These task types also differ in terms of the degree to which they draw on more spontaneous or more analysed language. For example, in this study, the oral production tasks were designed to assess learners’ ability to use the L2 in spontaneous language production while the written tasks were designed to measure learners’ conscious knowledge of the L2. In some of the measures, the language was presented in decontextualized sentences while in other measures the language was highly contextualized within a passage or task. Some of the measures included instructions that direct learners to focus on form, for example to identify an error in a sentence, while others asked learners to communicate specific content information with a focus on meaning. In addition, while all the instruments were designed to measure linguistic outcomes, they vary from more language-driven to more content-driven in the ways in which they direct learners’ attention. Table 3 identifies each of the language measures according to specific characteristics.
Table 3

**Design Features of Language Measures**

<table>
<thead>
<tr>
<th></th>
<th>EC Task</th>
<th>Cloze Task</th>
<th>OPT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Response type</strong></td>
<td>Selected response</td>
<td>Limited response</td>
<td>Extended response</td>
</tr>
<tr>
<td><strong>Processing</strong></td>
<td>Analyzed</td>
<td>Analyzed</td>
<td>Spontaneous</td>
</tr>
<tr>
<td><strong>Context embedded</strong></td>
<td>Isolated sentences</td>
<td>Contextualized by reading passage</td>
<td>Contextualized by picture cues</td>
</tr>
<tr>
<td><strong>Learner attention</strong></td>
<td>Focus on form</td>
<td>Focus on form</td>
<td>Focus on meaning</td>
</tr>
<tr>
<td><strong>Target forms</strong></td>
<td>Conditional and Past tense in same task</td>
<td>Conditional and Past tense in same task</td>
<td>Conditional and Past tense via two tasks</td>
</tr>
</tbody>
</table>

**Linguistic Measures**

*Error correction task.*

The first linguistic measure administered to the learners was the error correction (EC) task (see Appendix C). EC tasks are considered good measures of analyzed language knowledge (e.g., Ellis, Sheen, Murakami, & Takashima, 2008; Sheen, 2007; Wong, 2003). The EC task in this study focused the learner’s attention explicitly on form. The task was administered in the classroom by the researcher and learners were given 10 minutes to complete it. The same version of the task was used for the pre-test, post-test, and delayed post-test to allow a direct comparison of the learners’ performance over time.

The learners were given a list of 40 sentences and told that each sentence contained one error. They were asked to locate and correct the error by adding or deleting words or morphemes. The sentences included errors in the two target forms and two non-target forms acting as distracters. Both target forms were included in one test in order to
reduce the number of tests the learners were asked to complete during class time. Because this type of task was not typical of the activities carried out by learners in this class, there was some concern that the task would heighten their awareness of form in the overall context of the course. In an attempt to mitigate this effect, most of the sentences were about children or events common to childcare. This also increased the content authenticity of the EC task. The target forms in the EC task were distributed as follows: 15 sentences used real conditional, 16 used simple past and the remaining six sentences used other linguistic features to act as distracters. The 15 conditional sentences were equally distributed to employ one of five different verb forms in the main clause: habitual present, will, must, should, and might. The majority of the errors in these sentences were of these two types:

1. The verb after the modal was incorrectly formed, as either a gerund or an infinitive or marked for past tense, e.g., *If a child is hurt, you must to make a report.*

2. The verb in the subordinate clause (if-clause) was in gerund form rather than simple present, e.g., *Children might start a fire if they playing with matches.*

The simple past sentences included examples of regular and irregular verbs, used in questions, positive statements, and negative statements. The errors in these sentences included:

1. Omitted the suffix *ed* on regular verbs, e.g., *Yesterday, someone call me.*

2. Verb unmarked, e.g., *I go to Ottawa with a friend last year.*

3. Verbs incorrectly marked in questions and negative statements e.g., *Did you came to school yesterday? The teacher didn’t gave us a test.*

The distracters included errors in prepositions and pronoun agreement. These grammatical features had been suggested by the teacher as typically problematic for most of the learners in the program.
Cloze task.

The second written task completed by the learners was a selective deletion cloze task (see Appendix D). The cloze has a long-standing history as a measure of language development, and has been investigated as a valid measure of both global proficiency (Lapkin & Swain, 1977; Oller, 1973) and grammatical competence (Oller & Inal, 1971) with positive results. Selective deletion cloze tasks, in which a specific grammatical feature is deleted, have been used in a number of empirical studies (e.g., Harley, 1989; Hinkel, 1997; Leeman et al., 1995; Rodgers, 2006; Salaberry, 1998). In this study, the cloze consisted of a 310-word passage in which key components of both target features were deleted. Learners were asked to read the passage describing the workday of a childcare teacher and use the words given in the infinitive form in the brackets to restore the missing words. A total of 15 verbs were deleted from the text – eight words for the simple past and five words for the conditional. The base forms of the deleted verbs were supplied in parentheses. In order to complete this task, the learners were required to pay attention to form but also to process information beyond the sentence level. In this way, the cloze measure was intended to elicit more contextualized use of the target features. This task, like the EC task, included both target forms to reduce the number of tasks learners were asked to complete during class time. Also like the EC task, the same task was used as the pre-test, post-test, and delayed post-test to allow for direct comparison over time. Learners were given up to 10 minutes to complete the cloze.

Oral production measures.

The oral production tasks were designed to elicit more spontaneous use of the linguistic forms. Each of the two oral production tasks was designed to elicit one of the linguistic target forms in a task-natural context familiar to childcare providers. Both tasks were picture elicitation tasks and were completed one-on-one with the researcher and digitally audio recorded. Learners stepped out of class during the lessons for approximately eight minutes to participate in the oral production tasks, one task immediately after the other.
The past tense task consisted of a series of nine pictures. Each picture showed a child who had had some type of accident (Appendix E). The pictures did not show the accident as it took place. They showed the result of the accident, for example a bandaged finger, a broken pencil and a toothbrush floating in a toilet. At the start of the task, the learner was told that the child in the pictures had had a bad day and that the learners’ task was to describe what had happened. Learners were shown the pictures one at a time and were not prompted except to be asked ‘What happened then?’ This task required the learners to understand that the past tense form was needed to describe past events and to be able to form the past tense correctly. Both regular and irregular forms were included in the set of nine pictures.

The oral production task designed to elicit the real conditional used a picture in which there was a man, two young children and a dog standing in a kitchen (Appendix F). The picture depicted numerous potentially dangerous situations, for example, a knife on the edge of the counter, a hot water tap overflowing, and a kettle cord dangling off the counter. There were 10 dangerous situations in the picture. Based on pilot testing results, eight of the 10 were used for this task. Each situation served as an obligatory context for the use of the real conditional. The task included two stages. In the first stage, the researcher introduced the task and reviewed vocabulary related to objects in the picture. Pilot testing revealed that particular lexical items were challenging for the learners, for example: kettle, counter, cord. Therefore, this stage was intended to introduce the context and to alleviate the learners’ focus on lexical items so they could pay attention to the context and the communication task. The instructions for this stage were as follows:

“Today I’m going to show you some pictures and we’re going to talk about them. This is a picture of a kitchen. In this kitchen, there are a few dangers. We’re going to look at the dangers and then I will ask you to give me a warning about each danger. Let’s look at them together.”

The researcher prompted the learner to identify items in the picture by asking “What do you see?” If the learner did not know the vocabulary item, the researcher offered it. The learners were not asked to produce sentences using the target form at this stage. Most learners used only single words to identify the objects while others used
sentences identifying the object and the location, for example: *There’s a knife on the counter.*

The next stage of the task directed the learners to respond to each obligatory context as follows:

“Now, let’s look at them again and this time I’d like you to give me a warning for each danger. For example, if the man stands on the stool, he might fall down. What about the next one? What is the warning?”

The researcher guided the learner through the task by prompting them to move to the obligatory context until all the contexts were completed. However, the degree to which each obligatory context elicited the real conditional varied among the learners. Some of the learners immediately used the structure based solely on the context and the example given. Other learners did not attempt to use the form at all and in cases like these, a visual cue was provided by the researcher pointing to the word “IF” written below the picture.

**Content Knowledge Measures**

Empirical studies investigating the effect of a focus on language form in content-based language instruction commonly use two types of means to measure content outcomes: measuring comprehension of content (e.g., Leow et al., 2003), and drawing on learner recall of content (e.g., Lee, 2007; Wong, 2003). There are challenges with both types and disagreement as to which is most effective as a measure of content learning. The content measures in this study had elements of both types in that they required learners to demonstrate an understanding of course content and to recall discrete items addressed during instruction. The primary concern in developing the tests was to mitigate the disruption to the program by providing a type of test that the teacher customarily used in the course to review content with the learners.

A pre-test was used to establish a base line of content knowledge. Post-tests consisted of three mid-term tests rather one post-test at the end of the course (see sample in Appendix G). The content measures were designed in this way to avoid an over-reliance on memory. The participants in this study were adults with work and family...
responsibilities and they were studying in a class in which the schedule was not intensive. Therefore, the degree to which individuals remembered discrete items over a period of weeks varied considerably and did not necessarily indicate comprehension of content. With this in mind, the mid-term tests were delivered immediately after the target unit content was completed. For example, one content test was completed after the unit on behaviour management, and another after the unit on child abuse. The pre-test included items from the three target content areas (behaviour management, child abuse, and safety) and two other units of content matter (health and special needs). The tests were developed in consultation with the teacher and the content was based on previous tests that she had given in the same course with other learners. They included multiple-choice, true/false, and short-answer questions.

**Learner Awareness Protocol**

In order to investigate the relationship between awareness and outcomes, a learner report protocol was designed to measure the degree to which learners were aware of content or language as the focus of instruction. A wide variety of reporting protocols have been used to investigate learner awareness and attention in second language acquisition research (see Egi, 2004; Jourdenais, 2001). In this study, a written retrospective measure was selected as the most appropriate measure because it could be more easily integrated into the classroom schedule (see Appendix H). The protocol included three different reports, one completed after each of three different lessons. The content of the reports was customized to reflect the lesson as planned. Both groups completed the same report for the same lessons. One was completed after a lesson in which the instruction was differentiated by corrective feedback alone and two other reports were completed after lessons in which the FF group received explicit instruction on one of the two target forms.

The reports consisted of two parts. First, learners were asked to identify the focus or purpose of the lesson by selecting items from a list of language and content topics. The items related to grammar did not identify the target features in order to avoid drawing attention to these forms for the MF group. For example, after a lesson on behaviour management, learners were asked to complete the following:
What do you believe was the focus of today’s lesson? Put a check mark in the box. You can choose more than one box.

- what daycare policies say about behaviour management
- using correct grammar in writing
- when to use different behaviour guidance techniques
- how to speak using correct grammar
- how to summarize information in a policy
- what kind of foods contribute to poor behaviour

In addition, items that had not been dealt with in the instruction were also included. In the example shown here, the teacher had not taught the following content in the lesson: what kind of foods contribute to poor behavior. It was included in the report as a ruse item to check that learners were not selecting items randomly. In the second part of the reports, learners were also asked what they enjoyed, found difficult or was new to them in the lesson, and for any other comments they had about the lesson. This allowed learners to provide additional information about their focus during the lesson.

**Learner Profile Questionnaire**

Qualitative data were gathered about the learners’ backgrounds. After completing the consent form, learners were asked to complete a brief questionnaire about their general personal history such as language background and time in Canada as well as specific aspects of their educational and professional experiences related to the field of childcare (see Appendix B). For example, they were asked questions such as, Have you worked with children in Canada? What level of education have you completed? This information was gathered to assist in the interpretation of the findings. For example, scores on the content and language measures were examined in light of an individual's professional experience or educational background.
Pilot Testing of the Measures

The teacher participating in the study was extensively consulted in the development of the measures both for her expertise in the course content and her familiarity with the learners’ language proficiency. As a content expert, she was able to provide guidance on the selection of content in which to contextualize the language measures. As a language teacher familiar with the language proficiency of the learners in the program, she assisted by screening the content tests to ensure they were suitable for the language proficiency of the learners.

In addition to the input of the teacher, it was considered important to pilot the measures with learners who were studying in a similar content-based program. This, however, proved to be challenging. Learners in the same program were more likely to respond to the contexts in which the written and oral tasks were situated than learners who had no interest or experience in professional childcare and were therefore oriented differently. The participants in the pilot stage were drawn from learners studying in the same program, but in classes other than those selected for the study. This resulted in a low number of pilot participants: 16 participants were identified as possible pilot participants.

In addition, the nature of these classes posed challenges. Many of the participants were reluctant to agree to activities that appeared to draw time away from the instructional time they spent on content. For this reason, not all tasks could be piloted with all the learners. This reduced the actual number of pilot participants taking part in each task and therefore the quality of the pilot data.

The EC task and the cloze were piloted with 16 learners in a class ranging from mid-intermediate to high-intermediate levels of proficiency. Eight of the learners completed the EC task and eight completed the cloze. The pilot EC task had 37 items and included conditionals using questions and negatives. After reviewing the pilot data, several items were amended and the number of items increased to 40 to achieve a more balanced distribution of item types for both target features. Reliability analysis on the pilot version indicated Cronbach's alpha .84. This increased to alpha .95 on the pre-test version. Reliability analysis on the pilot data from the cloze indicated alpha .51. Some of the non-correlating items were revised and the alpha increased to .74 n the pre-test version.
The oral production measures were piloted with eight learners and four speakers of English with native proficiency. Three of the learners were enrolled in the same class that participated in the pilot of the EC and the cloze tasks. The other five learners were enrolled in a similar class at another location. The first version of the past tense task consisted of a picture showing a group of people engaged in various leisure activities in a park. This version was piloted with the participants at native proficiency. They were told that the picture showed a group of people engaged in activities. They were asked to describe what each person had done. Despite these instructions, the majority of these participants were inclined to use the present progressive to describe what was happening at the time and did not use the past tense until the prompt was repeated. For this reason, the pictures were re-designed to show the consequence of an action or incident rather than the action itself. The final version was piloted with two of the native speakers and the eight learner participants. The data revealed that the pictures elicited the use of the simple past tense.

For the conditional task, three different pictures were piloted before the final picture was selected. The pilot versions that were not used did not show the items in the pictures clearly or the dangers not obvious enough for learners to make the links between cause and effect easily. The pilot data also showed that only eight of the 10 dangers in the final picture were apparent to learners. One of the pictures was used as a sample during the task. Therefore, learners were required only to produce seven occurrences of the target form during the pre-test. In addition, learners in the pilot phase found specific vocabulary challenging. For this reason, the pre-test included a stage in which the researcher provided lexical support before eliciting the target form.

The content test was piloted with 11 learners from another class within the same program. The learners in this group were told that the teacher would provide a review test at the end of the course and this pre-test would serve as a benchmark for them. The pilot data showed that short answer questions seemed to overly challenge the writing skills of the learners at the lower range of proficiency. As it was not the intent to test writing skills with the content measures, the number of short-answer questions was reduced and the true/false and multiple choice items were increased.
**Data Scoring and Coding**

Different scoring and coding procedures were developed for each of the measures. In order to establish the reliability of the coding and scoring methods, 25 percent of all the quantitative data were scored by a second marker who had been familiarized with the coding and scoring procedures and trained to use them by the researcher. Disagreements were negotiated to achieve 100% agreement. In order to ensure accuracy in scoring, the measures were rescored by the researcher approximately six months after the initial scoring and any inconsistencies were corrected.

**Content Measures**

The content tests included three types of questions: true/false, multiple choice, and short answer questions. Responses to the content tests were scored as correct and incorrect. However, the score assigned to individual questions depended on the demands of the question type. For example, some of the short answer questions asked for more than one item of information and they were granted more than one point. In scoring short answer questions, any single word answer correctly providing the information was accepted with no penalty for misformed language structure. The answer key was provided by the course teacher and she was consulted for any ambiguous responses during the scoring of the tests.

**Language Measures**

The scoring procedures for the language measures varied according to the type of task. Like the content tests, the cloze task responses were scored as correct or incorrect. There were no partially correct answers. The scoring of the EC and oral production task responses took into consideration full accuracy and interlanguage development by granting partial scores for specific types of responses that are not fully accurate but indicative of L2 development. Following are descriptions of how each task was scored using accuracy and/or interlanguage criteria.
**EC and cloze tasks.**

The responses to the EC task were scored as correct (1) and incorrect (0). However, in approximately 2% of the responses on the pre-test, learners not only corrected the incorrect error in the sentence but also incorrectly changed another item in the sentence, thereby creating an error. For example, a learner made changes to the original item, *If a child is hurt, you must to make a report*, by deleting the word *to* and adding the letter *s* to the word *make* to produce the following sentence: *If a child is hurt, you must makes a report*. This response was not given a full mark because, while the learner shows an understanding that the modal should not be used as an infinitive, she is not aware that it is used in the base form and not in the present tense. Rather than discard these items or ignore the error created by the learner, a partial score of (.5) was assigned to them. A score of (1) indicated mastery of the form as required in the item. A score of (.5) indicated a familiarity with the form but not mastery, suggesting a stage of interlanguage development.

The cloze task responses were scored as (1) to indicate correct and (0) to indicate incorrect. There were no partial marks because there was no opportunity for learners to indicate an emergent knowledge of the form. The learners either supplied the correct form or did not.

**Oral production measures.**

The two oral production tasks were scored using criteria to assess accuracy and interlanguage development. Accuracy scores reflected target-like performance in both function and form whereas interlanguage scores reflected emerging knowledge of the form (Doughty & Varela, 1998). Each task had its own set of scoring procedures because they focus on different target features. For example, when scoring learners’ use of the ‘real conditional’, the learners’ ability to select the target form as the appropriate one for the task was a criteria, as well as their ability to use the form correctly or to approximate target-like use. When scoring the learners’ responses for the ‘simple past tense’, the criteria included the ability to select past as the appropriate tense, as well as their ability to select the correct aspect of the verb as simple.
The scoring procedures for the task testing the use of the conditional form were based on the following description of the form adapted from Celce-Murcia and Larsen-Freeman (1999):

1. The real conditional can be used to express a predictive relationship of cause and effect.
2. The relationship can be indicated by the use of the word *if*.
3. It consists of a sentence constructed of a main clause and a subordinate clause.
4. The main clause begins with the word *if* and the verb used in this clause is expressed in the present tense and agrees in person with the subject.
5. The verb in the subordinate clause is comprised of a modal and a verb in the base form.

Based on the assumption that these features represent the construct of the ‘real conditional’, learners’ oral production of the target form on this task were scored by assigning one point as follows:

1. ‘if’
2. main clause verb in present tense
3. main clause verb with correct subject person agreement
4. appropriate modal
5. verb following modal in base form

A response is considered target-like when all the construct components are accurate and a total of five points is assigned. Emerging interlanguage performance is captured in responses assigned less than five points. Table 4 illustrates how the scoring is applied to several samples of learner data. All the samples indicate responses to the same obligatory context in the task. The first learner sample illustrates target-like performance with a total of five points. The responses following the target-like utterance reflect emerging knowledge of the structural aspect of the form.
Table 4

**OPT Scoring: Conditional Target Feature**

<table>
<thead>
<tr>
<th>Sample responses to context no. 1</th>
<th>If (1 point)</th>
<th>verb tense +agreement (2 points)</th>
<th>modal agreement (2 points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the boy pulls the kettle down, he can burn himself.</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>If the boy pull the knife down, he can burn himself.</td>
<td>1</td>
<td>1 (no subject-verb agreement)</td>
<td>2</td>
</tr>
<tr>
<td>If the boy pulling the knife down, he can burning himself.</td>
<td>1</td>
<td>0</td>
<td>1 (no verb agreement)</td>
</tr>
<tr>
<td>If the boy pulling the knife down, he burn himself.</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>The boy pulls the knife; he can burn himself</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

The second oral production task focused on the use of the simple past tense. Responses were scored for both accuracy in tense and aspect and for interlanguage development when tense was correct but aspect incorrect. Target-like accuracy scores indicated accuracy in all these criteria while partial scoring indicated awareness of the function of the grammar as in past tense. Errors in other grammatical areas were not counted against the score. Table 5 below illustrates how various responses to the first context were scored with these criteria.
Table 5

**OPT Scoring: Past Tense Target Feature**

<table>
<thead>
<tr>
<th>Sample responses to context no. 1</th>
<th>tense</th>
<th>aspect</th>
</tr>
</thead>
<tbody>
<tr>
<td>She spilled the milk.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>milk spilled</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>She dropped the milk.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>She has spilled the milk.</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Milk</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Learner Awareness Protocol**

The learner awareness protocol was developed to investigate the following question: What effect does FFI have on learner awareness of language and content in this context? The responses to the three reports were coded to indicate when the learner selected a content or language item as the focus of instruction. The number of times a learner selected content items over the three reports was taken as an indication of awareness of content. Similarly, the number of times a learner selected language items indicated language awareness. Figure 5 below shows the items included in one of the reports. This report contains three items identifying content, two items indicating language form, and one ruse item, the last item, that was not addressed in the lesson.
What do you believe was the focus of today’s lesson? Put a check mark in the box. You can choose more than one box.

- what daycare policies say about behaviour management
- using correct grammar in writing
- when to use different behaviour guidance techniques
- how to speak using correct grammar
- how to summarize information in a policy
- what kind of foods contribute to poor behaviour

Figure 5. Learner awareness report.

Table 6 shows how the responses for this report were coded for a sample of four participants, two participants from the meaning-focused group and two from the form-focused group. The group is indicated in the left column and the totals for both content and language items in the right columns. As can be seen here, participant no. 19 belonged to the MF group and yet indicated a focus on language form in the lesson. The same participant also selected the ruse item, which indicates that she did not discriminate in her selections. This suggests that either she did not understand the instructions given, or she was not attentive. Therefore, this participant’s report data were excluded in the final analysis.
Table 6
Learner Awareness Protocol: Coding of Reports

<table>
<thead>
<tr>
<th>Learner ID</th>
<th>Group</th>
<th>Report Item</th>
<th>Totals</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Content items</th>
<th>Language items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 2 3 4 5 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>FF</td>
<td>1 1 0 1 1 0</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>FF</td>
<td>1 1 1 1 1 0</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>MF</td>
<td>1 1 1 1 1 1</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>MF</td>
<td>1 0 1 0 0 0</td>
<td>2</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The comments provided by the learners on the reports were also reviewed for additional information about the focus of the learner during the lesson.

Classroom Instruction

The instruction delivered between the pre-test and post-test was digitally recorded in order to determine the degree to which the instruction had been delivered as planned in the study. All the recordings were reviewed and coded broadly to indicate if the teacher focused primarily on content or on the target forms. A focus on content was coded by checking off content in the coding table. A focus on language form was more finely coded to indicate if the teacher provided corrective feedback, coded as F-CF, and if she presented or explained the grammar metalinguistically, F-ME. Both of these categories were also coded to specify the target form, either conditional (C) or past tense (F), and the provision of corrective feedback was further coded as to whether it consisted of implicit recasts (R) or explicit explanation (E). Table 7 provides a sample of the coding scheme used for instruction provided to the FF group. In this table, the times are indicated in increments of 10 minutes.
Table 7

*Coding of Instruction*

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>December 1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>2 hrs., 23 mins.</td>
<td>Behaviour Management</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>.20</td>
<td>.40</td>
<td>1.0</td>
</tr>
<tr>
<td>Content</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>F-input</td>
<td>C</td>
<td>C</td>
</tr>
<tr>
<td>F-CF</td>
<td>E</td>
<td>E</td>
</tr>
<tr>
<td>F-ME</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

*Note.* *F* = form; *CF* = corrective feedback; *ME* = metalinguistic explanation;
*C* = conditional; *P* = past tense; *I* = implicit (recast); *E* = explicit
Chapter Four:
Data Analysis and Results

Overview

The research questions guiding this comparative study are: What effect does FFI have on language learning in a content-based language program for adults? What effect does FFI have on content learning in a content-based language program for adults? What effect does FFI have on learner awareness of language and content in this context? These questions were investigated by testing the following hypotheses:

H₁: Introducing a focus on form in a meaning-focused content-based language program will result in greater gains in grammatical knowledge, as measured by written grammar correction and cloze tasks and picture-elicitation oral production tasks, than instruction focused on meaning alone.

H₂: Introducing a focus on form in a meaning-focused content-based language program will have no effect on content learning as measured by discrete point content knowledge tests, when compared with instruction focused on meaning alone.

H₃: Learners are able to report awareness of both content and language in instruction that includes both a focus on grammatical form and content meaning.

H₄: Learners reporting a high degree of language awareness in instruction that includes a focus on form will show stronger outcomes on the language measures than learners who report a lower degree of awareness.

Two written tests and two oral production tasks were used to measure language outcomes in pre-test/post-test/delayed post-tests. Content learning was measured with four content tests. Awareness of language and content was assessed with an awareness protocol. These measures were subjected to reliability analysis including item analysis and a computation of Cronbach’s alpha. The first two hypotheses were tested using statistical tools chosen according to the properties of the data. Normally distributed data were
subjected to t-tests to investigate group differences and repeated measures ANOVA and ANCOVA were carried out to determine the effect of instruction over time and between groups. The written and oral production data were also analysed by target feature to determine if outcomes differed for each of the two target features included in the measures. All statistical analyses were carried out using SPSS 17. The third and fourth hypotheses were tested by calculating awareness of language and content as mean scores on the learners’ reports. ANOVA was carried out to determine if there was any relationship between the language awareness score and the scores on the language measures. In addition, ANOVA was conducted to investigate the relationship between learner variables such as previous education and work experience and the learners’ performance on the measures testing language and content learning.

This chapter begins with a description of the analysis carried out to assess instrument reliability of the language and content measures and the awareness protocol. Next, I report descriptive statistics for each of the measures and the results of data analysis, including ANOVA and ANCOVA, carried out to investigate the research hypotheses in this study.

**Instrument Reliability**

In order to inform the interpretation of the results, the language and content measures were subjected to reliability analysis to determine internal consistency. An item analysis was also carried out in order to determine if any of the items were significantly easier or more difficult than the others. The internal consistency estimates of reliability for the language and content measures were computed using Cronbach’s alpha. For the written language measures, reliability estimates were computed for each of the tasks as a whole and separately for items according to the target linguistic feature, *real conditional* or *simple past tense*. With regard to the learner awareness protocol, the selection of items made in the three reports completed by the participants was compared to the audio recordings of the lessons delivered during the target instruction to verify if the given items had been included in the lesson.
Language Measures

Analysis of the EC task indicated a coefficient alpha over .9 for all 40 items on the pre-test, immediate post-test and delayed post-test. When computed separately for the two features, the result was an alpha over .8 for both features on the pre-test, immediate post-test and delayed post-test. Item analysis of the EC pre-test indicated that the scores in percentages for individual items ranged from .29 to .93. It is generally considered that items should be within .3 and .7 in terms of difficulty (e.g., Cohen, Manion, & Morrison, 2000). Of the 31 items, 17 items scored above .7, indicating that these items may be considered easy and less likely to indicate significant change in the post-tests. A close examination of these items showed that they did not contain entire sets of similar items. Of the 13 items, two tested a specific aspect of the conditional that was also included in two other items which did not score .7 and above in terms of difficulty or ease. The remaining 11 items all tested the past tense and once again were not distinct within the total of 16 past tense items. Because of this, all 31 items were kept in the data set for subsequent analysis and this property of the data will be considered when interpreting the results and considering the limitations of the study.

Analysis of the cloze task with all 13 items varied across tests: alpha .74 on pre-test, .69 on the post-test, and .75 on the delayed post-test. The coefficients for the eight items testing the past tense were .80 on the pre-test, .70 on the post-test, and .77 on the delayed post-test. The coefficients for the five items testing the real conditional feature were .48 on the pre-test, .57 on the post-test and .46 on the delayed post-test. An item analysis revealed that two items were outside of the range of .3 and .7: one item was scored at .8 and another was .05. Given the small number of items, it was decided to include the item that scored .8 but the item that scored .05 was removed. In addition, however, a second item was removed when closer examination across the three tests revealed an inconsistency that invalidated the item. The removal of these items reduced the total items to 11. More significantly, however, both items tested the use of the conditional feature; once removed, only three conditional items remained. Given the small size, the decision was made not to subject these items for further separate analyses. The
alpha coefficients on the final 11 items was .74 on the pre-test, .71 on the post-test, and .69 on the delayed post-test.

The oral production task measuring performance using the real conditional attained an alpha over .8 on the pre-test, the immediate post-test, and the delayed post-test. The reliability of the past tense measure was less positive: the pre-test alpha was .59, the post-test .73, and the delayed post-test attained an alpha of .47.

Content Measures

Reliability analysis of the content pre-test indicated an alpha of .71. The three post-tests carried out during the instructional stage varied with regard to the coefficient alpha indicated. Analysis of the 19 items on the Behaviour Management test (test A) indicated a coefficient alpha of .68. After one item was removed, the alpha increased to .72. Analysis of the Health and Safety (test B) test indicated .47 when all 16 items were included. The alpha increased to .64 when four items were removed and .71 when eight of the original 16 items were removed. The test on the Child Abuse unit (test C) attained a coefficient alpha of .58. The maximum alpha attainable on this test was .64 after seven of the 19 items were removed. A number of factors were considered when deciding whether to remove items and increase the alpha: the size of the data set before and after removal, the degree to which the alpha is increased by the removal of the items, and the statistical analysis to be carried out with the data. Accordingly, the final item counts and alpha for the three content post-tests are as follows in Table 8.
Table 8

Content Tests Reliability Analysis

<table>
<thead>
<tr>
<th>Test</th>
<th>No. of items</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>34</td>
<td>.71</td>
</tr>
<tr>
<td>Test A</td>
<td>18</td>
<td>.72</td>
</tr>
<tr>
<td>Test B</td>
<td>12</td>
<td>.64</td>
</tr>
<tr>
<td>Test C</td>
<td>17</td>
<td>.63</td>
</tr>
</tbody>
</table>

Learner Awareness Protocol

The learner report data were gathered via three retrospective reports that were completed by the participants at the end of three different lessons. There was a total of 18 items included in the three reports, contained in Table 9.
### Table 9

**Learner Awareness Protocol: Report Items**

<table>
<thead>
<tr>
<th>Learner Report (LR) 1, 2, 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LR1</strong></td>
</tr>
<tr>
<td>a) how the teacher should manage the children</td>
</tr>
<tr>
<td>b) what happens if a teacher doesn’t use the right behaviour management</td>
</tr>
<tr>
<td>c) the different types of playground equipment</td>
</tr>
<tr>
<td>d) how to find the DNA regulations</td>
</tr>
<tr>
<td>e) how to use correct grammar in sentences</td>
</tr>
<tr>
<td>f) the rules of behaviour management that are part of a policy</td>
</tr>
<tr>
<td><strong>LR2</strong></td>
</tr>
<tr>
<td>a) what daycare policies say about behaviour management</td>
</tr>
<tr>
<td>b) using correct grammar in writing</td>
</tr>
<tr>
<td>c) when to use different behaviour guidance techniques</td>
</tr>
<tr>
<td>d) how to speak using correct grammar</td>
</tr>
<tr>
<td>e) how to summarize information in a policy</td>
</tr>
<tr>
<td>f) what kind of foods contribute to poor behavior</td>
</tr>
<tr>
<td><strong>LR3</strong></td>
</tr>
<tr>
<td>a) how children get hurt in playgrounds</td>
</tr>
<tr>
<td>b) how to write sentences with correct grammar</td>
</tr>
<tr>
<td>c) safety rules for children in playgrounds</td>
</tr>
<tr>
<td>d) how to summarize information that we read</td>
</tr>
<tr>
<td>e) how to use the past tense grammar</td>
</tr>
<tr>
<td>f) how to complete an accident report</td>
</tr>
</tbody>
</table>

Five of the items referred to the teaching of form: item e) in the first report (LR1), items b) and d) in the second report (LR2), and items b) and e) in the third report (LR3).
One of these language items was included as a ruse item for the FF group: item e) in LR1. This item referred to grammar instruction that had not been included in the instruction for the FF group. Therefore, it was expected that the FF group learners would not select this item even though it was a language item. The remaining 13 items referred to content or content-related skills that were taught in the lessons. Two of these content items, each from a different questionnaire, were non-target content items: item c) in LR1 and item f) in LR2. The information contained in these items did not occur in any of the lessons. They were included to verify that the learners were not making choices indiscriminately.

In order to confirm that the reports corresponded to the instruction, a comparative analysis was carried out between the target items in the learner reports and the audio recordings of the lessons. This analysis was necessary to ensure the validity of each item because, while the learner report items were chosen based on the teacher’s lesson plans, teachers do not always deliver instruction as planned. There were audio recordings available to verify all the items on the learner reports except for the lesson on which the third learner report was based. Unfortunately, part of the recording for this lesson was lost.

The analysis of the audio data revealed that two items did not occur in the instruction as planned. For LR1, there is no evidence in the audio data that the content item b) what happens if a teacher doesn’t use the right behaviour management, was explicitly taught in the lesson for either the FF or the MF group, although it was logically related to the topic for that day. The second item was from LR3: item f) how to complete an accident report. The teacher had planned to carry out a report writing activity with learners in both the FF and MF lessons. However, she was not able to carry out this activity with the MF group because another activity took longer than expected. In fact, two of the participants wrote “not yet” next to the item, indicating that they realized that this part of the lesson was postponed to the next class, while another participant checked it off and then changed her response. As a result of this analysis, these two items were removed from the total data set for further analysis. In addition, one other item was removed from LR3: item d) how to summarize information that we read. This item was removed because it was an ambiguous item. It referred explicitly to neither language nor content, and was therefore difficult to code. This resulted in a total of 15 items from all three reports.
The data set was then examined in terms of learners’ responses. LR1 was completed by 40 participants, LR2 was completed by 35 participants, and LR3 was completed by 38 participants. The data from three of the learners were removed from LR2 because two of the learners, one in the FF group and the other in the MF group, did not select any items, while another learner, in the MF group, selected all the items, including the non-target items. This resulted in 40 individual reports for LR1, 32 individual reports for LR2, and 36 reports for LR3.

For this analysis, the number of times a particular item was selected by one of the learners was counted. Table 10 shows how the participants in both groups, FF and MF, responded to each of the items, indicating if they believed the item was present in the instruction or not.
Table 10

Learner Reports: Responses for Each Item

<table>
<thead>
<tr>
<th>Learner Report Items</th>
<th>FF</th>
<th>MF</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR1 (N = 40)</td>
<td>(n = 17)</td>
<td>(n = 23)</td>
</tr>
<tr>
<td>a) how the teacher should manage the children</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>b) the different types of playground equipment</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>c) how to find the DNA regulations</td>
<td>16</td>
<td>14</td>
</tr>
<tr>
<td>d) how to use correct grammar in sentences</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>e) the rules of behavior management that are part of a policy</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td>LR2 (N = 32)</td>
<td>(n = 17)</td>
<td>(n = 15)</td>
</tr>
<tr>
<td>a) what daycare policies say about behaviour management</td>
<td>17</td>
<td>13</td>
</tr>
<tr>
<td>b) using correct grammar in writing</td>
<td>14</td>
<td>0</td>
</tr>
<tr>
<td>c) when to use different behaviour guidance techniques</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>d) how to speak using correct grammar</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>e) how to summarize information in a policy</td>
<td>14</td>
<td>6</td>
</tr>
<tr>
<td>f) what kind of foods contribute to poor behaviour</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LR3 (N = 36)</td>
<td>(n = 16)</td>
<td>(n = 20)</td>
</tr>
<tr>
<td>a) how children get hurt in playgrounds</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>b) how to write sentences with correct grammar</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>c) safety rules for children in playgrounds</td>
<td>14</td>
<td>18</td>
</tr>
<tr>
<td>d) how to use the past tense grammar</td>
<td>14</td>
<td>0</td>
</tr>
</tbody>
</table>

This analysis shows that learner attention/awareness of what was (or wasn’t) taught was idiosyncratic: sometimes their acknowledgement of what had been taught matched what had in fact been addressed by the teacher and sometimes it did not. For example, consistent with the instruction delivered, learners in the MF group generally did not select the five grammatical items. However, one learner in the MF group indicated that she believed that grammatical form was a focus of the lesson on both LR2 and LR3,
though not on LR1. Yet, evidence from the audio data indicated that the teacher did not focus on form during these two lessons. This learner wrote very few comments on the reports and did not include any reference to form in the lesson. A review of the scores of this learner on the other measures showed that on the EC and cloze tasks, her pre-test scores were the lowest in the group: 11% on the EC task and 15% on the cloze task.

Similarly, on LR1, one of the learners in the FF group indicated that the lesson had included instruction on correct grammar in sentences, even though the particular lesson did not include explicit instruction on this language item. The responses to content item a) in LR1 showed that only a few learners identified this as a focus of the lesson, though the audio evidence indicates that it was. Interestingly, the same number of learners in both the FF and MF group selected this item so this may be a comment on how explicitly the teacher related the topic.

On LR2, less than half of the learners in both groups selected item c) *when to use different behaviour guidance techniques*, even though the audio recordings indicated that most of the class time spent on content for both groups was dominated by reading and discussion of the daycare policies relevant to when to use different behaviour guidance techniques. Also of note is item d) *how to speak using correct grammar*: only two learners in the FF group indicated that they had noted a focus on how to use grammar in speaking. The learners in both groups commented repeatedly on this report that the regulations and policy material was very difficult. In this lesson, the teacher used authentic government regulations with language that was well above the linguistic capabilities of the learners and they were required to manipulate two documents: both the regulations and a policy statement. The audio data show that the majority of the speaking carried out by the learners was in the form of content questions for the teacher rather than practice or a focus on using correct grammar when speaking.

For LR3, learner responses to two items differed from the instruction delivered: item a) *how children get hurt in playgrounds*, for both FF and MF groups and item b) *how to write sentences with correct grammar*, for the FF group. The low response to these items was unexpected because it was not consistent with the response to other similar items on the same reports. For example, with regard to item a) *how children get hurt in...
playgrounds, this was discussed as part of the broader topic on safety rules in playgrounds. The same content related to safety rules in playgrounds was captured in item c) and this item was selected by nearly all the FF and MF learners. Yet, item a) was selected by only half of the learners in either group. In addition, one of the learners wrote in the comments section of the report: “I learned how children get hurt in the playground” and yet did not select item a) which included precisely that content. With regard to language item b) how to write sentences with correct grammar, fewer than half of the learners in the FF group selected this item as part of the lesson. Yet, nearly all the learners selected item d) how to use the past tense grammar. The lesson plan indicated that the past tense was addressed in an activity in which the learners were asked to write an accident report using the past tense, which required that they write sentences in correct grammar.

Descriptive Statistics

Language Measures

A total of 36 participants completed all three tests of the EC task: 16 learners in the FF group and 20 in the MF group. However, one participant did not complete the second page of the EC delayed post-test and her EC scores were excluded from the data set, resulting in a total of 15 learners in the FF group. An exploratory analysis of the data from the EC task indicated that the data were normally distributed, both overall and within the two treatment groups.

Analysis of the cloze data indicated that the delayed post-test data were skewed with a statistic of -.808 and a standard error of .393. One outlier was found, participant no. 9, which was removed and the data distribution normalized. This resulted in a data set for the same number of participants as for the EC task: 15 learners in the FF group and 20 in the MF group. Only the scores of those participants who completed pre-test, immediate post-test and delayed post-test, are included in this data set. Tables 11 and 12 show the mean scores for both groups on these measures.
Table 11

*Descriptive Statistics for EC Task*

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>FF (n = 15)</td>
<td>.65</td>
<td>.23</td>
<td>.78</td>
</tr>
<tr>
<td>MF (n = 20)</td>
<td>.55</td>
<td>.25</td>
<td>.64</td>
</tr>
</tbody>
</table>

Table 12

*Descriptive Statistics for Cloze Task*

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>FF (n = 15)</td>
<td>.71</td>
<td>.18</td>
<td>.72</td>
</tr>
<tr>
<td>MF (n = 20)</td>
<td>.54</td>
<td>.26</td>
<td>.63</td>
</tr>
</tbody>
</table>

Further to analysis of the EC and cloze data sets, additional analysis was conducted to investigate the possibility that the outcomes might differ for each of the target features: the first conditional and the simple past tense. This was carried out for the EC task only. It was decided not to analyse the features separately on the cloze task because of the low number of conditional items available for analysis. Exploratory analysis of the EC conditional data indicated three outliers in the post-test data, all in the FF group. Removing these outliers normalized the data. The MF group data were normally distributed with no outliers. Analysis of the EC data related to the past tense feature included one outlier common to the immediate and delayed post-test of the FF group. Removing this outlier normalized the distribution. Table 13 and table 14 show the means for the conditional scores and the past tense scores on the EC task.
Table 13

Descriptive Statistics for EC Task: Conditional Target Feature

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>FF (n = 12)</td>
<td>.67</td>
<td>.27</td>
<td>.84</td>
</tr>
<tr>
<td>MF (n = 20)</td>
<td>.49</td>
<td>.30</td>
<td>.52</td>
</tr>
</tbody>
</table>

Table 14

Descriptive Statistics for EC Task: Past Tense Target Feature

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>FF (n = 14)</td>
<td>.80</td>
<td>.16</td>
<td>.84</td>
</tr>
<tr>
<td>MF (n = 20)</td>
<td>.65</td>
<td>.27</td>
<td>.76</td>
</tr>
</tbody>
</table>

The oral production tests measured performance and knowledge of the two linguistic features separately. A total of 16 participants in the FF group and 20 in the MF group completed all three tests for each measure. Analysis indicated that the data from both tests, the conditional and past tense tests, were normally distributed. Table 15 and Table 16 show the descriptive statistics for both groups on both oral production tasks.
Table 15  
*Descriptive Statistics for OPT: Conditional Target Feature*

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>FF (n = 16)</td>
<td>.54</td>
<td>.20</td>
<td>.74</td>
</tr>
<tr>
<td>MF (n = 20)</td>
<td>.42</td>
<td>.23</td>
<td>.56</td>
</tr>
</tbody>
</table>

Table 16  
*Descriptive Statistics for OPT: Past Tense Target Feature*

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>FF (n = 16)</td>
<td>.57</td>
<td>.22</td>
<td>.51</td>
</tr>
<tr>
<td>MF (n = 20)</td>
<td>.41</td>
<td>.22</td>
<td>.32</td>
</tr>
</tbody>
</table>

*Content Measures*

Exploratory analysis of the content measures indicated that the distribution was normal for all four tests and there were no outliers. As the measures were not intended to show improvement across time but to give an indication of content learning for specific units, analysis was carried out with all participants included rather than excluding those participants who had not completed all four of the content tests. An overview of the means in Table 17 indicates descriptive statistics for the content tests.
Table 17
Descriptive Statistics for Content Tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>FF</td>
<td>18</td>
<td>.44</td>
<td>.12</td>
</tr>
<tr>
<td></td>
<td>MF</td>
<td>22</td>
<td>.42</td>
<td>.15</td>
</tr>
<tr>
<td>Test A</td>
<td>FF</td>
<td>12</td>
<td>.58</td>
<td>.18</td>
</tr>
<tr>
<td></td>
<td>MF</td>
<td>17</td>
<td>.39</td>
<td>.14</td>
</tr>
<tr>
<td>Test B</td>
<td>FF</td>
<td>15</td>
<td>.83</td>
<td>.10</td>
</tr>
<tr>
<td></td>
<td>MF</td>
<td>20</td>
<td>.62</td>
<td>.16</td>
</tr>
<tr>
<td>Test C</td>
<td>FF</td>
<td>14</td>
<td>.84</td>
<td>.11</td>
</tr>
<tr>
<td></td>
<td>MF</td>
<td>18</td>
<td>.72</td>
<td>.12</td>
</tr>
</tbody>
</table>

Attention to Content and Language

Learner awareness protocol data were analysed to investigate attention to content and language. As the lesson for LR1 did not include grammar instruction, only two of the learner reports were used: LR2 and LR3. For the purposes of this analysis, the non-target item, item f) in LR2 was excluded and only the data for those learners who completed both learner reports were included, for a total of 15 learners in the FF group and 13 learners in the MF group. The number of language and content items selected for each learner was counted. As the total of the content items on the two reports was higher than the total of the language items, the numbers were standardized out of a score of 10 to facilitate comparison. Figure 6 shows the percentage of the total of the content and language items that were selected by the learners in the FF group. Figure 7 indicates the same information for the MF group. The bars indicate the responses of each learner.
Figure 6. Content and language items selected by learners in FF group

Figure 7. Content and language items selected by learners in MF group

Figure 6 shows that all the learners in the FF group selected both content and language items. However, the data shows a great deal of variation. Some of the learners in
the FF group selected content and the language to a similar degree, for example learners 2, 5, 8, and 13. Others, such as learners 6 and 7, indicated being aware of a focus on content more than the language. Three of the learners indicated a greater awareness of a focus on language than on content in the instruction: learners 9, 12, and 14. Figure 7 indicates that only one learner in the MF group selected language as a focus of the instruction she received. This learner did so despite the evidence of the recorded audio data of the lesson indicating that the teacher had not explicitly addressed language form in the lessons.

The next stage of analysis was designed to investigate if the frequency with which a learner indicated awareness of language was reflected in language outcomes. This analysis included the data for the 15 learners in the FF group only. Table 18 shows how the learners were distributed in terms of the standardized scores that indicated the frequency.

Table 18

*Learner Reports: Distribution of Scores for Language Items*

<table>
<thead>
<tr>
<th>Frequency as a standardized score</th>
<th>Number of learners (n = 15)</th>
<th>Percentage of the total number of learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5</td>
<td>5</td>
<td>33.3</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>26.7</td>
</tr>
<tr>
<td>7.5</td>
<td>5</td>
<td>33.3</td>
</tr>
<tr>
<td>10</td>
<td>1</td>
<td>6.7</td>
</tr>
</tbody>
</table>

Four groups emerged from this analysis. The two largest groups of learners selected had scores of 2.5 and 7.5, with five learners in each group. The other two groups, one of which consisted of one learner, were combined with these two to create two groups. These were two groups consisted of learners with a score of 5 and below, (nine learners), considered less aware and here referred to as Group L, and a more aware group with a score of 7.5 or higher (six learners) referred to as Group H. The mean scores for these two groups on the language measures, the cloze task, the EC task and the oral production tasks, were compared against the scores on the reports. Tables 19, 20, 21, and 22 indicate
these statistics for Group H and Group L. The total number of learners varies for each language measure because only those learners who completed all the learner awareness reports and all three of the tests (pre-test, immediate and delayed post-test) were included in this analysis.

Table 19
**Descriptive Statistics for ECT Means for Language Awareness Groups**

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>L (n = 7)</td>
<td>.54</td>
<td>.21</td>
<td>.70</td>
</tr>
<tr>
<td>H (n = 5)</td>
<td>.81</td>
<td>.16</td>
<td>.88</td>
</tr>
</tbody>
</table>

Table 20
**Descriptive Statistics for Cloze Means for Language Awareness Groups**

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>L (n = 6)</td>
<td>.62</td>
<td>.21</td>
<td>.64</td>
</tr>
<tr>
<td>H (n = 6)</td>
<td>.79</td>
<td>.14</td>
<td>.84</td>
</tr>
</tbody>
</table>
Table 21
Descriptive Statistics for OPT Means for Language Awareness Groups: Conditional Target Feature

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>L (n = 7)</td>
<td>.41</td>
<td>.11</td>
<td>.74</td>
</tr>
<tr>
<td>H (n = 6)</td>
<td>.62</td>
<td>.15</td>
<td>.73</td>
</tr>
</tbody>
</table>

Table 22
Descriptive Statistics for OPT Means for Language Awareness Groups: Past Tense Target Feature

<table>
<thead>
<tr>
<th></th>
<th>Pre-test</th>
<th>Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>L (n = 7)</td>
<td>.56</td>
<td>.24</td>
<td>.56</td>
</tr>
<tr>
<td>H (n = 6)</td>
<td>.56</td>
<td>.24</td>
<td>.42</td>
</tr>
</tbody>
</table>

The descriptive statistics for the two groups indicate that learners in Group H had higher pre-test scores than learners in Group L on all the measures except for the past tense oral production task, and that learners in Group L made greater gains from pre-test to post-test on two of the measures. As we will see, however, these differences were found not to be statistically significant with regard to the research question.

Classroom Instructional Audio Data

Instruction between pre-tests and post-tests was digitally recorded and analysed to establish the fidelity of the instructional treatment. A total of approximately 27 hours of instruction in the MF group and 28 hours of instruction for the FF group was recorded and analysed. The data were broadly coded for a focus on language and content and more...
finely coded for specific FFI strategies related to the target linguistic forms. The coding indicated how much time learners were exposed to relevant input modeling the target forms during the lesson in the teacher’s speech and the classroom tasks, the provision of metalinguistic explanation, and the frequency and quality of corrective feedback provided to the learners.

The analysis showed that generally the MF group received the instruction as planned, with a focus on content and with no explicit focus on form. However, the audio data also showed that the provision of recasts as corrective feedback was minimal. In 27 hours of audio data, only two instances of recasting were evident. This included a 10 minute period during which a learner (L) struggled to describe an incident in a daycare to the teacher (T):

L: She (the child) was attaching.
T: Oh, she was attached to you.
L: She’s Ok when I stay there.
T: When you were there.
L: She cry.
T: She was still crying.
L: Yeh, still crying.

This exchange shows that the teacher reformulated the learner’s utterances but did so in a manner that supported the cohesion of the story the learner was reporting. At one point, the learner appeared to attempt self-correction, in the last exchange, but did so by creating another error where it was error-free before, suggesting that she was more focused on maintaining the storyline and confirming to the teacher the unexpected content – that the child was still crying.
In the following exchange, the teacher reformulates the learner’s utterance with a correction:

L: The teacher will redirect the child if continue to bite or hit.

T: …if he continues to bite or hit.

With regard to the FF group, the data revealed a more significant variation. Out of 28 hours of data, approximately 150 minutes of metalinguistic explanation of form was provided as planned in the form-focused lessons provided to the teacher. However, throughout the entire treatment period, based on the audio data available, there was evidence of approximately 90 minutes of explicit corrective feedback, all of which was provided during lessons that were adapted to focus on form by including metalinguistic explanation and form-focused tasks. This means that for the majority of the lessons, there was no explicit corrective feedback provided and no implicit feedback at any point during the treatment. This is discussed in the final chapter of the thesis.

Another way in which the actual treatment varied from the treatment as planned is in the way the form-focused lessons were distributed over the study duration. The FFI lessons that included metalinguistic explanation and form-focused tasks were designed to be delivered over three individual lessons. The audio data showed two variations: the distribution of FFI over the 10-week treatment and the intensity for the two linguistic forms. With regard to distribution, the audio data showed that the teacher provided the metalinguistic explanations over five separate lessons rather than three as planned. However, explicit corrective feedback was provided only during two of these lessons. With regard to the two linguistic forms, the additional two lessons of FFI were devoted to the conditional rather than the simple past tense. The possible effects of this variation will be discussed later in the final chapter.
**Results**

**Language Outcomes**

In order to investigate the first hypothesis, the results of the FF group were compared with the MF group on all four language measures: the EC task, the cloze task and the oral production tasks. A comparison of the mean scores of the EC task showed that the FF group started with a higher pre-test score. However, an independent samples t-test of the EC task data showed no statistically significant group differences in pre-test scores between the two groups of learners: $t(33)=1.17, p = .250, d=.402$. The mean scores on the cloze task scores also showed that the FF group had a higher pre-test score than the MF group. In this case an independent samples t-test indicated statistically significant pre-test differences between the two groups: $t(33)=2.25, p = .031, d=.797$. With regard to outcome, the statistics indicated that both groups increased in mean scores from the pre-test to the immediate post-test with no advantage for the FF group in terms of the development of grammatical knowledge. The means of the delayed post-tests, however, differed between the two measures. On the EC task, the scores of both the FF group and the MF group increased slightly from post-test to delayed-post-test, after the treatment ended. The cloze data, however, showed a sharper increase in scores from the post-test to the delayed post-test for the FF group, in fact a greater increase than during the treatment period, while the MF group decreased slightly between the post-test and delayed post-test.

A repeated measures analysis of variance (ANOVA) was conducted with the EC task data and the results supported the statement that there appears to be no advantage for the FF group, despite the variation in delayed post-test means. The results showed a significant time effect, $F(2, 32) = 13.26, p = .000, \eta^2 = .453$, but no significant effect for instruction: $F(2, 32) = .501, p = .610, \eta^2 = .030$. These results indicated that both groups of learners scored significantly higher on the post-test than on the pre-test and that this was the case regardless of instructional treatment.

Given the pre-test differences on the cloze scores, a repeated measures analysis of covariance (ANCOVA) was conducted using the pre-test scores as a covariant to investigate the effect of instruction. This analysis confirmed that there was no effect for
instruction: $F(1, 32) = 2.82, p = .103, \eta^2 = .081$, similar to the EC task results. This analysis of both the cloze data and the EC task data confirmed that on the written measures both the FF group and the MF group demonstrated increases in grammatical knowledge as measured by these tests and that there was no advantage for the FF group with regard to this improvement.

Further analysis explored if there was any difference in the impact of the treatment on the learning of different linguistic features. An independent samples t-test of the EC task conditional data showed no statistically significant group differences in pre-test scores between the two groups of learners: $t(30) = 1.74, p = .092, d = .647$. Repeated measures ANOVA indicated a significant time effect, $F(2, 29) = 4.18, p = .025, \eta^2 = .224$. However, there was no significant effect for instruction: $F(2, 29) = 1.15, p = .233, \eta^2 = .096$. The ANOVA results indicated that both groups of learners scored significantly higher on the EC task conditional post-test than on the pre-test and that this was the case regardless of instructional treatment.

Analysis of the EC task past tense data also indicated no statistically significant pre-test differences between the FF and MF group: $t(32) = 1.81, p = .078, d = .680$. ANOVA showed an effect for time, $F(2, 31) = 7.65, p = .002, \eta^2 = .331$, but not for instruction, $F(2, 31) = 1.13, p = .337, \eta^2 = .068$. The descriptive statistics of the oral production tasks presented different results for the two tasks. The means on the conditional oral production task were similar to those for the EC task: the FF group had a higher pre-test mean than the MF group, the means of both groups showed an increase on the post-test and a further slight increase on the delayed post-test. The past tense oral production task, however, showed a decrease for both groups from pre-test to post-test, a continued decrease on the delayed post-test for the FF group and a slight increase for the MF group.

An independent samples t-test of the conditional oral production test indicated that the group difference on the pre-test was not statistically significant: $t(34) = 1.55, p = .131, d = .526$. An ANOVA indicated a significant time effect, $F(2, 33) = 17.45, p = .000, \eta^2 = .514$. However, there was no significant instruction effect, $F(2, 33) = .66, p = .511, \eta^2 = .040$. Analysis of the past tense oral production task data revealed a statistically significant
difference between the pre-test means for the FF and MF group: \( t(34) = 2.18, \ p = .037, \ d = .728 \). An ANCOVA was carried out to investigate the effect of instruction on the two groups and the results showed that there was no statistically significant effect for instruction over time: \( F(1, 33) = 3.08, \ p = .088, \eta^2 = .085 \).

**Content Outcomes**

In order to determine the effect of the instructional treatment on the retention of content knowledge and investigate the second hypothesis, learner scores on the four content tests were analysed. Independent t-test results showed no significant pre-test group difference. However, there were statistically significant differences between the groups on the subsequent content tests. While the FF group did not score higher than the MF group on the pre-test, they scored significantly higher on all three subsequent tests. Table 23 shows the results of the independent t-test results for all four tests.

**Table 23**

*Content Tests: Independent Samples T-test Results*

<table>
<thead>
<tr>
<th>Content Test</th>
<th>( T )</th>
<th>( df )</th>
<th>Sig. (2-tailed)</th>
<th>Cohen’s ( d )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>.42</td>
<td>38</td>
<td>.679</td>
<td>.14</td>
</tr>
<tr>
<td>Test A</td>
<td>3.18</td>
<td>27</td>
<td>.004</td>
<td>1.18</td>
</tr>
<tr>
<td>Test B</td>
<td>4.66</td>
<td>32.45</td>
<td>.000</td>
<td>1.51</td>
</tr>
<tr>
<td>Test C</td>
<td>2.81</td>
<td>30</td>
<td>.009</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Awareness of Language and Content**

With regard to the relationship between language awareness and language outcomes, I hypothesized that learners reporting higher degrees of awareness as reported via the retrospective learner awareness protocol would show stronger outcomes in the language measures used in the study. Repeated measures ANOVA, and ANCOVA where
indicated, were carried out to investigate if there was a relationship between the language outcomes as measured in this study and the degree of awareness reported by the FF group participants. This degree of awareness was captured as High (H) or Low (L) awareness based on analysis of the report data described in the descriptive analysis section of this chapter.

Consistent with the descriptive statistics, one-way ANOVA of the EC task results indicated a statistically significant pre-test difference: $F(1, 10) = 6.009, p = .034, \eta^2 = .375$. Accordingly, an ANCOVA was conducted to investigate the relationship between these outcomes and the degree of language awareness indicated by the reports. The results indicated that, despite the considerable difference indicated by the descriptive statistics, there was no statistically significant relationship between the degree of awareness as measured by the awareness protocol and language gains as measured by the EC task: $F(1, 9) = .20, p = .667, \eta^2 = .022$. One-way ANOVA results of the Cloze task results revealed no statistically significant pre-test difference: $F(1, 10) = 2.64, p = .136, \eta^2 = .209$. An ANOVA conducted on the Cloze task results indicated no statistically significant relationship: $F(2, 9) = .27, p = .771, \eta^2 = .056$.

Of the two oral production tasks, the conditional task revealed a statistically significant pre-test difference: $F(1, 11) = 7.53, p = .019, \eta^2 = .406$. Therefore, ANCOVA was carried out to analyse these results. Similar to the EC task, despite the greater gains that were indicated for the lower awareness group by the descriptive statistics, ANCOVA indicated no statistically significant relationship: $F(1, 10) = .25, p = .625, \eta^2 = .025$. The past tense task results revealed no statistically significant pre-test difference: $F(1, 11) = .00, p = .996, \eta^2 = .000$ and, like the conditional task, ANOVA indicated no statistically significant relationship for this measure either: $F(2, 10) = 3.59, p = .067, \eta^2 = .418$.

ANOVA and ANCOVA were carried out with Bonferroni correction applied in SPSS. Table 24 presents a summary of the results in relation to each of the research questions.
**Table 24**

*Summary of the Results*

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Measure</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>What effect does FFI have on language learning in a content-based language program for adults?</td>
<td>EC</td>
<td>ANOVA</td>
<td>Statistically significant effect for time</td>
</tr>
<tr>
<td></td>
<td>Cloze</td>
<td>ANCOVA</td>
<td>No statistically significant effect for treatment</td>
</tr>
<tr>
<td></td>
<td>OPT, conditional</td>
<td>ANOVA</td>
<td>Statistically significant effect for time</td>
</tr>
<tr>
<td></td>
<td>OPT, past tense</td>
<td>ANCOVA</td>
<td>No statistically significant effect for treatment</td>
</tr>
<tr>
<td>What effect does FFI have on content learning in a content-based language program for adults?</td>
<td>Content tests</td>
<td>Independent samples t-tests</td>
<td>Statistically significant effect for treatment</td>
</tr>
<tr>
<td>What effect does FFI have on learner awareness of language and content in this context?</td>
<td>EC</td>
<td>ANOVA</td>
<td>No statistically significant relationship between degree of awareness and language outcomes</td>
</tr>
<tr>
<td></td>
<td>Cloze</td>
<td>ANCOVA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OPT</td>
<td>ANCOVA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Learner awareness protocol</td>
<td>ANCOVA</td>
<td></td>
</tr>
</tbody>
</table>
Role of Learner Variables

In addition to investigating the four hypotheses directly, additional analyses were carried out on the information gathered from the participants at the start of the study. These data enabled me to explore the possibility that individual variables might have played a role in how different learners responded to the treatment.

The questionnaire data showed that most of the participants, 67%, had completed college or university before coming to Canada and 62% had been living in Canada for over four years, including 23% who had been residents for more than 8 years. Two language groups emerged as the most common first languages reported by the participants: 26% reported Mandarin or Cantonese and 28% reported Bangla or Tamil. A total of 14 other languages were also reported by the participants, including Albanian, Arabic, Ethiopian, Farsi, Korean, Somali, Singhala, Spanish, Tagalog, Temine, Twi, Urdu, Vietnamese, and Yoruba. With regard to their knowledge of professional childcare, the content of the program, the majority of the participants reported having worked in the field either in Canada or internationally, approximately 76%, suggesting a familiarity with the occupational content. However, only 31% had undertaken any formal training or education specific to the profession. This suggests that for many of the participants their professional knowledge was likely to consist of an understanding of practice but less likely to include the ability to articulate their knowledge, as required in pen and paper tests of knowledge such as the content measures used in this study.

A comparison of the data from the FF and MF groups, however, showed only one statistically significant group difference: 50% of the participants in the FF group had completed education or training in childcare while approximately 16% of the MF participants had done so ($F(1,40)=5.84, p=.020, \eta^2 = .127$). ANOVA was conducted to investigate if there was a relationship between this variable and the learners’ performance on the content tests. The content tests were the one measure on which the two groups differed significantly. The results, contained in Table 25, show no statistically significant relationship between previous education or training in childcare and the learners’ performance on two of the content tests and a relationship approaching significance on one of the tests with a small effect size.
Table 25  
*ANOVA of Professional Education and Content Test Outcomes*

<table>
<thead>
<tr>
<th>Content Test</th>
<th>$F$</th>
<th>$df$</th>
<th>Sig.</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test A</td>
<td>.65</td>
<td>1, 28</td>
<td>.427</td>
<td>.023</td>
</tr>
<tr>
<td>Test B</td>
<td>4.07</td>
<td>1, 33</td>
<td>.052</td>
<td>.110</td>
</tr>
<tr>
<td>Test C</td>
<td>2.21</td>
<td>1, 30</td>
<td>.148</td>
<td>.069</td>
</tr>
</tbody>
</table>
Chapter Five:
Discussion and Conclusions

Overview

This study investigated the extent to which the introduction of FFI into a content-based language program would have an impact on language and content learning. Drawing on evidence from an established body of research in FFI, it was hypothesised that the learners receiving attention to language form integrated into their content-based language instruction would be advantaged on tests of grammatical knowledge and production over learners receiving only meaning-focused instruction. Analysis of the outcomes on both the written and oral tests did not support this hypothesis: there was no difference in language learning outcomes between the FF and the MF groups.

With regard to content learning, it was hypothesised that there would be no difference between the learning outcomes of the groups, specifically, that drawing learners’ attention to form during content-based instruction would not detract from content learning in the program, when compared with the meaning-focused group. The results partially supported this hypothesis and produced a rather surprising result: while there was no statistically significant difference between the two groups in terms of content knowledge on the pre-test, the FF group, the one that received a combination of content and language instruction, actually outperformed the MF group learners on all subsequent tests of content knowledge.

The final hypotheses were concerned with the relationship between FFI and learner awareness of language and content during instruction. It was hypothesized that learners who received instruction which included a focus on both content and language would be able to report awareness of both retrospectively. It was further hypothesized that learners who indicated a higher level of awareness would also demonstrate greater gains in language outcomes. The results supported the first hypothesis but not the second.

In what follows, I will review these results, point out potential factors that may have influenced the findings and discuss them in relation to other L2 classroom research that has investigated different combinations of form and meaning-based instruction. I will
describe the limitations of the study and conclude with a discussion of theoretical and pedagogical implications of the findings and suggestions for future research.

Effect of Instruction

Language Outcomes

The first research question investigated the effects of drawing learners’ attention to language forms in a content-based classroom. Language learning was measured via written and oral tasks. The results of the written tasks indicated that learners in both the FF and MF groups made statistically significant gains in grammatical knowledge over time but that there were no significant differences between them. The results of learners’ performance on the oral tasks showed statistically significant increases for one of the target features (i.e., the conditional) from pre-test to post-test, no statistically significant changes over time for the other (i.e., the past tense) and no differences between the two groups. Overall, these findings indicate that learners in both groups made gains in language learning, as measured by some of the measures, but that there were no advantages on the language measures for the group receiving a focus on form integrated with a focus on meaning.

On the surface, these findings would seem to support claims that content-rich meaningful input is sufficient for language learning (Krashen, 1982) and that a focus on content can lead to incidental language learning (e.g., Dalton-Puffer, 2007; Grabe & Stoller, 1997). This would be consistent with findings from some content-based L2 programs where grammar teaching has been described as largely incidental and unplanned (e.g., Brinton et al., 2003, Burger et al., 1997) and in which learners have achieved high levels of comprehension ability and sometimes even oral production (Burger & Chretien, 2001).

Krashen has asserted that the right kind of content should be “so interesting and relevant that the acquirer may even ‘forget’ that the message is encoded in a foreign language” (Krashen, 1982, p. 66). Evidence from the audio recordings from both the classroom instruction and the oral production tasks in the present study show that the
content provided was both rich and compelling. For example, in one lesson, learners can be heard expressing shock when the teacher recounted how a fatal playground accident became the impetus for playground regulations. In classroom discussions learners in both the FF and MF groups often described their personal experiences in the workplace and the home and sometimes personalized the material during the oral production tasks. For example, in the task testing the *conditional*, in which a picture of kitchen hazards was used to elicit language, a learner commented that the knife left on the counter was very dangerous and that she “never leave(s) the knife like that”. In reaction to a picture used in the *past tense* oral task that shows a toothbrush floating in a toilet, another learner described how all the toothbrushes in her household fell into the toilet one evening, leaving the family without a toothbrush among them. This is compelling evidence that learners were motivated and engaged in the content.

In interpreting the findings, however, it is worthwhile to look more closely at the nature of the FFI that was provided. FFI in this study was operationalized as instruction that included three components: (1) grammar explanations, (2) form-focused tasks, and (3) corrective feedback, both explicit and implicit. The instructional treatment was designed to provide all three components to the FF group. The first two options were scripted into lessons to be delivered over 15 hours of the class time with corrective feedback, explicit and implicit, included in those hours and the remaining 35 hours of the entire 10-week period. The MF instruction was designed to focus exclusively on content but included the provision of implicit corrective feedback in the form of recasts, once again delivered throughout the entire instructional period. However, as indicated in the results chapter, the audio recordings of the instruction revealed that the instructional treatment had not been delivered entirely as planned. The FF group received all three components but this was limited to specific lessons of FFI with corrective feedback provided outside of those lessons.

This raises the question as to whether the results might have been different if corrective feedback had been provided as planned, and this leads to discussion about the role that corrective feedback plays in connecting form and meaning when situated in a framework of FFI. Doughty (2001) suggests that corrective feedback helps learners make form-meaning connections by drawing on learners’ still active memory of their own errors
as they attempt to make meaning. In this way, the feedback helps make the forms salient and the form-meaning connections apparent to learners. N. Ellis (2006) suggests that the bigger the gap between the error and the feedback, the less likely the focus on form will facilitate form-meaning connections. Corrective feedback, unlike other forms of pre-planned intervention, capitalizes on the learner’s heightened awareness of meaning because it is provided when learners are engaged in communicating and exerting cognitive effort to make their messages understood.

There is also evidence to suggest that corrective feedback enhances other FFI options. For example, corrective feedback may capitalize on the effect of metalinguistic explanations that prime the learner for processing of form-meaning connections (N. Ellis, 2005) and they can encourage learners to notice the gaps in their interlanguage (Swain, 1985), where other FFI options such as text enhancement or metalinguistic explanation might serve to help the learner notice the form but not the gap. Along these lines, Lyster (2004) investigated the effectiveness of FFI with and without corrective feedback in a French immersion classroom. He operationalized FFI to include text enhancement, metalinguistic explanation and practice tasks, and compared post-test results for learners that received this FFI with others that received the same FFI but with corrective feedback as well; one group of learners receiving corrective feedback as prompts and another group as recasts. The findings indicated a benefit for FFI with corrective feedback over FFI without corrective feedback, although the results also showed this to be the case for prompts and not for recasts. In line with the rationale that corrective feedback helps learners notice the gap between the target form and their own production, Lyster (2004) concluded that prompts pushed learners more than recasts did and therefore capitalized on the priming of the FFI provided in the treatment.

A related question for the present study is how effectively the focus on form functioned to integrate language and content, a primary mandate of content-based language teaching. Swain (1988) raised this as an issue in her observations in French immersion classrooms where she noted that teachers taught grammar but did so in a manner isolated from the content of the program. She suggested that the isolation of grammar instruction may have contributed to the relatively low grammatical competence of French immersion students. In fact, the audio recordings of the instruction in the
present study contains evidence that, at least some of the time, a focus on form was delivered in a manner disconnected from much of the meaning-focused instruction which dominated instruction for the FF group. For example, when the teacher explained how to construct the grammar, she commonly did so by deconstructing the components. She described the form of the verb in the first clause and the verb in the second clause, rather than describing it as the verb that expresses cause and effect. At a number of points, she elicited corrections to a sentence on the board and then directed the learners’ attention to the content by saying, “Ok. Now let’s look at the content”. In this way, the teacher reinforced the separation between the form and meaning rather than capitalizing on the work carried out earlier when learners were engaged in decoding the form metalinguistically.

Since then, numerous studies situated in content-based classrooms have investigated the effectiveness of different FFI options in integrating language and content in content-based classrooms, predominantly in immersion classrooms (Day & Shapson, 1991; Harley, 1989, 1998; Kowal & Swain, 1997; Lyster, 2004). Spada and Lightbown (2008) have discussed the constructs of integrated and isolated FFI in relation to communicative and content-based language teaching. Integrated FFI has been constructed as an approach that draws on a range of strategies to help learners attend to form-meaning connection, including a role for corrective feedback. Corrective feedback can be a powerful tool for the integration of language and content precisely because it is situated within exchanges of meaning, yet it was not fully exploited in the present study.

The findings can also be interpreted in light of the position that learners strategically allocate attention to form and meaning when faced with dual demands (Skehan, 1998; Skehan & Foster, 2001; VanPatten, 1990) and that the default focus is meaning over form, particularly for lower proficiency learners (VanPatten, 1990). In the present study, like many content-based programs, the course was designed to rely extensively on professional documents, in this case from the field of professional childcare. When using these documents, the teacher used a range of strategies to provide

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2 A conceptual framework motivating this line of research in French immersion comes from Stern’s (1990) distinction between analytical and experiential teaching which is similar to the contrast between a focus on form and a focus on meaning.
supportive scaffolding for the learners. Nevertheless, comments on the learner awareness reports suggested that some of this material presented demands that were well above the comprehension level of the learners. Learners in both the FF and the MF groups commented on the difficulty of a particular lesson that required them to understand and discuss daycare policies and government regulations. As it happens, this lesson had been adopted as one of the target lessons that included FFI for the FF group. If this condition is considered in light of the premise stated above, the challenge presented by this material has implications for the effectiveness of this lesson in drawing the learners’ attention to form. When learners found it difficult to attend to both form and meaning, their attention would have defaulted to a focus on meaning, rendering the treatments, from the perspective of the learners, the same for both groups.

Lastly, though not a primary focus of this study, the different results related to the two target features merit some attention, specifically with regard to the oral production task. The oral production task for the past tense was the only measure on which neither the FF nor the MF group demonstrated any gains in language outcomes. In fact, the results for both groups demonstrated a decrease in scores from pre-test to post-test. While it is difficult to say what accounted for the decrease in scores, the lack of an increase may be related to two factors: the nature of the feature and the attention paid to it during treatment. Firstly, the past tense is less salient, both aurally and in terms of the form-meaning connection: the past tense morphology for the regular form is difficult to distinguish phonetically and reference to past can often be communicated by other lexical information such as the word “yesterday”. Secondly, the conditional form is more syntactically complex than the past tense, which involves morphological change to create the regular past tense form. This may be why other research has also reported that learning of the past tense is affected differently by a focus on form than other linguistic features (e.g., Mackey, 2006). Secondly, the audio data showed that when the teacher redistributed the FFI over five instead of three lessons, she did so during the lessons devoted to the conditional form. This may have reflected the need to pay closer attention to explanations of the syntactic complexity of the conditional form.
**Content Outcomes**

The second research question examined the effects of FFI on content learning. A comparison of the pre-test scores on the content tests showed that the two groups were not significantly different in terms of the overall knowledge they brought to the course, despite the fact that a greater percentage of the FF learners had education and training in ECE. Yet the results of the three subsequent content tests showed that the FF group consistently and significantly outperformed the MF group. On the surface, it appears that rather than detract from content learning, the FF treatment may have enhanced the learning of content.

While surprising, this finding is not unique. Wong (2003) investigated the effect that textual enhancement, as a means of drawing learners’ attention to form, had on language acquisition and comprehension of content. In her study of adults learning French as a second language in a university program, she found that textual enhancement of a specific grammatical form had a positive effect on comprehension while having no effect on language outcomes: learners recalled the content of text when it was enhanced text better than when the text was not enhanced. Wong suggested that this may have been because the entire clause, not only the grammatical feature, in this case the past participle agreement, was enhanced. This may have encouraged learners to take note of the text and process it for meaning rather than attending to the text as an example of form. In Wong’s study, attention to content was assessed in terms of how well learners could recall specific items whereas in the present study, the content included many more items that had been addressed over a period of time in different lessons. Nevertheless, as in Wong’s study, it is possible that the focus on form contained in some of those lessons created a heightened awareness on the part of the learner that encouraged them to engage with and recall the meaningful content. In fact, during the study, the teacher reported her own observation anecdotally that the learners in the FF group appeared to be particularly alert and engaged with the content during the lessons in which she had carried out the FFI. It is possible, then, that the focus on form served to increase awareness of the content meaning on the part of the learners rather than shifting attention from an exclusive focus on meaning to a focus on form.
An alternative interpretation is that the provision of FFI may have contributed to the learners’ language proficiency in terms of receptive development. In other words, the FFI may have helped learners understand the language used in the content and in this way successfully promoted content learning. This comprehension-based relationship between content and language has traditionally been the basis for content-based language instruction that focuses on a model of ‘language serving content’, programs which aim to enhance language proficiency so the learner can access the content (e.g., Snow et al., 1989). Research in immersion and comprehension-based programs that have adopted this model has shown that a focus on the development of receptive language skills can help learners achieve high levels of comprehension in the L2 (e.g., Burger & Chretien, 2001; Burger et al., 1997; Harley & Swain, 1984; Swain & Lapkin, 1981).

The question remains, however, as to why there was no measurable advantage for the FF group with regard to language learning. This can be interpreted in a number of ways. Firstly, there is the question of how language gain was measured. In this study, language development was measured with specific tasks intended to measure learners’ knowledge of the target linguistic forms and their ability to use them in oral production. Ellis (1992) points out that the choice of assessment tool reflects assumptions about language acquisition: in this case, the tool reflects the assumption that language acquisition means being able to display knowledge of linguistic form and to use it accurately in production. This focus on production as the primary measurement of L2 development is considered by researchers and supporters of comprehension-based language teaching to be a serious oversight (Courchêne, 1992; Paribakht & Raymond, 1992). Their contention is that the first step in language development is comprehension, not production. Research that has been carried out in comprehension-based programs has investigated achievement in the receptive language skills as indicators of language proficiency (Burger & Doherty, 1992).

In the present study, the focus on production is certainly in line with the particular context of the study: learners would be expected to use language primarily to communicate verbally in the workplace. However, a significant amount of time was spent in the course reading authentic material and listening to content-driven input from the teacher, typical of many content-based classes. Such activities promote the development
of comprehension. As such, it would be reasonable to provide measures of comprehension as well as production. If we believe that comprehension precedes production and that learners are not likely to learn new linguistic features if they do not understand the content in which they are embedded, then measures of comprehension may show gains at stages of development where measures of production do not. Within the framework of form-focused instruction, measures of comprehension could be designed to assess the learner's understanding of the function of a specific linguistic form in relation to meaning, similar to the oral production and written tasks that were used in this study. It is possible that such measures in the present study might have shown advantages for the FF group over the MF group in language outcomes and would have provided an explanation for the positive impact on content learning.

In addition, there is the question of learner differences. Although a learner questionnaire was used to obtain some information about the learners’ backgrounds, it was limited and it is possible that the two groups differed in ways that were not considered or measured by the questionnaire. For example, the FF group may have had learners who were more highly motivated in general than learners in the MF group, a factor that has been cited as important in support of content-based language teaching (Genesee, 1994, Snow & Brinton, 1997). They may have also responded to the content differently because of their previous professional studies: 50% of the learners in the FF group had previous ECE training compared to only 16% of the learners in the MF group. While this did not correlate statistically with the content outcomes on an individual basis, it may have contributed to their level of motivation in terms of attending to the content. The FF group did not have an advantage in terms of prior professional experience, using their ECE knowledge in the workplace, but having been exposed to the content in past educational contexts may have heightened their confidence in the classroom.

The design of the research may also have inadvertently produced different learning conditions for the two groups. The FF group attended class once a week for five hours on Saturdays while the MF group attended twice a week in the evenings. While on the surface, it may seem that the more frequent exposure would be advantageous, it is important to note that those learners attending the evening classes did so after full days either in the workplace or caring for their families. This difference was evident in the
attendance of the evening class, the MF group, in which learners attended less regularly than the FF group. This is also supported by anecdotal statements made by the teacher during the study when she reported an impression that the FF group was more alert and focused than the MF group overall. While factors such as these are difficult to anticipate and measure, they are important to note as affective issues that relate to the effectiveness of FFI.

**Role of Attention and Awareness**

The third research question explored what effect FFI might have on learner awareness of language and content in content-based L2 learning. This was investigated via the learner awareness protocol that asked learners to report awareness of language and content in their instruction. All the learners in the FF group selected both language and content items while the MF group learners, overall, indicated only content items. These findings indicate that, using the specific protocol developed, learners were able to identify and report that they attended to both language and content when it was provided in their lessons.

However, with regard to the link between awareness and language learning, the results of this study did not support the hypothesis. While no statistically significant relationship was found, it is possible that the pre-test differences played a role in limiting the extent to which the learners at the higher level were able to demonstrate greater language gains due the possibility of a ceiling effect. It may also be that the learners’ higher levels of language proficiency may have facilitated their engagement and awareness.

At issue, may also be the way in which awareness has been defined and operationalized in this study. Schmidt (1995) differentiated between awareness as ‘noticing’ (i.e., noticing language), and awareness as ‘understanding’ (i.e., noting language rules). This differentiation in awareness suggests different levels of processing. A number of studies have shown positive relationships between language outcomes and awareness at the level of understanding: a meta-awarenesss (Leow, 1997, 2001; Radwan, 2005; Rosa & O’Neill, 1999). In the present study, the awareness protocol asked the
participants to indicate in writing if the teacher included instruction about grammatical form but they did not elicit any comment on metalinguistic aspects of the grammar. Thus, the reports appear to have elicited awareness as noticing but not as understanding. As such, it is difficult to assess if any of the learners processed the material at the level of understanding, processing which these studies suggest may more likely be revealed as positive language gains in tests of grammatical knowledge such as the ones used in the present study. Tomlin and Villa (1994) underscore the complexity of this relationship when they assert that noticing requires levels of alertness and orientation as well. These reports did not measure either of these two additional facets of attention and awareness. Along these lines, there is no reason to expect that the a report of noticing the provision of grammatical information would reflect processing of that information at a level that contributes to learning.

**Limitations of the Study**

The findings of this study must be interpreted in light of several limitations stemming from the nature of intact classes and content-based language instruction for adults.

As intact classes, the learners were not recruited to form groups for the purpose of research. They enrolled in the program according to their schedule preferences and took time out of work and family responsibilities to attend the program. This group of learners is not ordinarily available to attend additional sessions for research so all data collection had to be completed during class time. As such, all data had to be collected during instructional time. In order to maintain the good will of both the learners and the teacher, and their continued consent, data collection was designed to minimize the amount of time taken away from instruction. For example, the two written measures were designed to include both target features in each of the tests. This affected one of the measures, the cloze task, in that the number of items addressing each target feature was small: only five items addressed the conditional, which limited its reliability as a tool. The learner awareness reports were also affected by the same conditions. Completing the reports meant taking time away from class time at the end of the lessons. As such only four
reports were completed by the learners and one of them was administered before the differentiated treatment began as a pilot of the protocol.

The nature of the program as content-based language instruction also played a role in the reliability of the language measures. The availability of classes such as these is limited compared to core language classes. It was difficult to find learners in similar programs with the same professional content and levels of proficiency. As such, it was not possible to extensively pilot the data collection measures. For this reason, the reliability of the tests had to be improved where possible by reducing the number of items included. In addition, as a program with a dual focus on content and language, it was considered important to integrate the research activities with the focus on both language and content while maximizing the amount of data collected. The data collection tools were designed to embed knowledge and use of the target forms in the context of professional childcare. This proved to be quite challenging and as such the decision was made to use the same tools for the pre-test, immediate and delayed post-test. While this had the advantage of allowing a direct comparison of the learners’ performance on the tests across time, it is unclear to what extent the use of the same tests may have equalized the performance of the two groups and reduced the advantages of instruction for the FF group. A control/comparison group would have helped to disentangle this; however, access to a comparable class was not feasible.

Of greater impact, however, may have been the question of the fidelity of the treatment. As noted earlier the treatment provided to the FF group was designed to include the provision of explicit corrective feedback yet the audio recordings reveal that very little explicit corrective feedback was provided. This is likely related to the fact that the teacher had a preference for focusing on content over form and described her teaching style as implicit with an avoidance of explicit focus on form, consistent with teachers in other content-based classrooms (e.g., Lyster & Ranta, 1997; Zyzik & Polio, 2008). In fact, the veracity of this preference was evidenced in the audio data of both the FF and MF groups which showed very little evidence of the use of implicit recasts as feedback as well. This unexpected teacher variable has been reported in other studies as well (Day & Shapson, 1991; Harley, 1989; Spada & Lightbown, 1993). For example, Spada and Lightbown (1993) found that the teacher in the comparison group provided instruction similar enough
to the treatment group as to potentially render the treatment neutral. In the present study, the treatment was not entirely neutral in that the two groups did receive different instruction. However, it does affect the interpretation of the findings. For example when the results indicated no advantage for the FF group learners over the MF group learners on the language measures, this reflected the effectiveness of a treatment that included metalinguistic information and form-focused tasks without the addition of corrective feedback.

The final limitation discussed here is with regard to the context of English as a second language and the length of the treatment. Although the issue of short duration of treatments is often treated as a limitation in L2 classroom research, in the context of this study, the longer duration may have been presented a disadvantage because of the context. Situated in the context of English as a second language, it is impossible to control for learning outside the classroom. Learners continued to learn as they used English not only for everyday life but, for some of the participants, in the childcare workplace as well, and they did so over the treatment period of 10 weeks and beyond until the delayed post-tests were administered. For this reason, it is not entirely certain that the outcomes measured are a result of instruction rather than this additional exposure.

**Conclusions and Implications**

This study set out to investigate the effect of FFI on language and content learning in a content-based language classroom and related questions about learner awareness. On the question of the effect of FFI on language outcomes, the findings of this study do not lend support to claims that introducing a focus on form in content-based instruction will improve grammatical accuracy more than maintaining an exclusive focus on content/meaning. However, the converse is also true: they do not support pedagogical decisions against a focus on form and in favour of entirely meaning-focused instruction in such contexts. The reasons for this are two-fold: firstly, the findings showed that content-learning was not negatively affected by the inclusion of a focus on form, a rationale cited by content-based teachers as a reason not to focus on form. In fact, the results suggest that the provision of a focus on form enhanced content learning.
Secondly, a number of limitations of the study may have influenced the outcomes. In particular, the most serious of these is likely the compromise of treatment fidelity: the data revealed that the FF group had not received corrective feedback as intended. Theoretically, however, these findings raise important questions about the role of corrective feedback in helping learners make form-meaning connections in content-based classrooms which strive to integrate attention to language and content. This discussion highlights the role of corrective feedback as a powerful tool for the integration of attention to language and content. In comparison to the other pre-planned means of directing learner attention to form that were included in the treatment, corrective feedback is situated in spontaneous interaction and can be provided when learners are focused on meaning, increasing the chances that learners might connect form and meaning. In addition, because it can be provided frequently and briefly, corrective feedback may be able to build on the priming achieved by other means of focus on form provided earlier to learners, once again leading to stronger links between content and language.

Although not the object of this study, a related finding has implications for program design and classroom practice: both groups, regardless of treatment, made measurable gains in language outcomes. This lends support to the benefits of content-based language teaching and encourages program designers and classroom teachers to continue providing instructional programs that include a strong emphasis on content. What the study did not demonstrate was whether a focus on form, if adequately delivered to exploit form-meaning connections in the content, can accelerate the process of language acquisition.

With regard to content, the results confirmed that a focus on form did not detract from content learning and in fact suggested that content learning had been enhanced by the provision of FFI. On the surface, this finding appears encouraging for those teachers who are reluctant to introduce a focus on form in content-based classrooms. However, given the lack of advantage for language learning, it may not be convincing enough to warrant the effort that may be required by some strongly content-focused teachers to introduce a focus on form in their teaching. It should be emphasized, however, that the way in which L2 learning was measured in this study may not have fully captured L2
progress that did take place. That is, if learners’ receptive abilities had been measured in addition to their production abilities the results may have been different.

On the question of learner awareness, these findings showed that participating in retrospective reports can capture a picture of how learners see the focus of instruction they receive. This suggests that retrospective reports may provide a useful tool for teachers to find out how instruction is perceived by learners. They can provide an initial assessment of learner awareness that teachers can then use for pedagogical decisions. For example, a learner who consistently favours language form over content in her/his reports may be indicating an orientation toward that form, information the teacher might be able to exploit in adapting instruction. In addition, if the learners' reports of the focus of instruction contrast strongly with what the teacher believed she/he delivered, than this tool can provide a valuable impetus for reflection.

**Directions for Future Research**

A number of questions related to the teaching of language and content have been raised in this study and warrant further investigation. One key area that emerged from this study is the role of corrective feedback as a means of helping learners connect form and meaning in the content-based classroom, specifically with regard to the way in which it is embedded within the meaning-based discourse of the classroom. This question is interesting in the context of the content-based classroom because of the quality of discourse in these types of classrooms. Teachers and learners are focused on communicating content and often do so by negotiating their way past errors in form to agree on the meaning of the content. When the teacher is an expert in the content, form is even further ignored because the learners can rely on the teacher's expert knowledge of the content to 'guess' meaning well before the learner has actually pushed themselves linguistically to explain it. It would be valuable to learn more about how learners and teachers handle corrective feedback in this strongly content-focused discourse. Does corrective feedback encourage the negotiation of form-meaning connections within this discourse or does it affect the discourse and change the interaction patterns in these classrooms? This may be explored by examining the effect of corrective feedback on
discourse in these classrooms and gathering feedback from learners and teachers on their experiences. It would also be useful to investigate the role of corrective feedback in these classrooms by comparing the effect of providing entirely meaning-focused instruction with instruction enhanced by corrective feedback.

Questions about the measurement of language and content learning have also emerged from this study. Content learning is operationalized differently in different contexts and across different studies depending on the primary goal of the investigation. This includes measurements of content learning as comprehension, as the ability to recall specific items and, in immersion and content-based classrooms, as academic achievement on standardized tests. This makes it very difficult to compare findings across studies that are not situated in precisely the same contexts. It would be valuable to conduct a meta-analysis of the literature, to investigate what is being measured by each of the different tools and how content learning is variously defined by the content with the aim of allowing research to be interpreted similarly across studies.

Questions also remain about the measurement of language learning in content-based language classrooms. The language measures included in this study tested knowledge and production but not comprehension of form-meaning connections. More studies that include both types of measures might shed light on the connection between comprehension and production and allow researchers to explore how a focus on form can scaffold learners' language development from the ability to understand to the ability to produce.

Finally, the role of content in content-based language programs warrants a finer grain investigation. By definition, FFI problematizes the learning of language form over content. Attention to content and meaning is considered the default for learner attention. However, the nature of the content may have an impact on how learners attend to language form. For example, Ready and Wesche (1992) found that post-test language outcomes varied across disciplines, with weaker gains made by political science students than those in the psychology or history program learners. They suggested that the course content may have played a role: the content of the political science course may not have had an organized structure that facilitated the use of redundant language necessary for
content learning to be integrated with attention to language form. Han (2008) explores how the complexity of content and meaning influences the efficacy of recasts and argues that meaning poses its own learning challenges. In the context of content-based language learning and teaching, this may require a repositioning of form-focused instruction and the role of conscious attention from one in which form and meaning are treated as competing dimensions of learning to one in which they are investigated as synchronous processes.
References


Appendix A:
Program Syllabus

Unit 1: The Role of the Early Childhood Educator
- Introductions and Learning Portfolios
- The Role of an Early Childhood Educator

Unit 2: Interpersonal Communication
- Communication Between Co-workers
- Communication with a Supervisor
- Communication with Parents
- Cross-Cultural Communication

Unit 3: Early Childhood Development
- The Five Areas of Development and Developmental Milestones
- Stages of Play and Developmental Checklists
- Children with Special Needs

Unit 4: Behaviour Management
- Behaviour Management
- Behaviour Guidance Techniques
- Child Abuse

Unit 5: Health and Safety
- Indoor Safety
- Outdoor Safety
- Accidents and Serious Occurrence Reports
- Fire Safety
- Emergency Phone Calls

Unit 6: Nutrition
- Canada’s Food Guide
- DNA Regulations on Nutrition
- Recipes for Children
- Food Handling and Storage
- Menu Planning
- Shopping for Groceries

Unit 7: Curriculum Planning
- Age-Appropriate Activities for Children
- Classroom Arrangement
- The Playground
- Daily Routines
- Thematic Planning
- Program Evaluation
Appendix B:
Learner Profile Questionnaire

Name:___________________________________________________

Please tell me a little about yourself. All the information you provide will be confidential and used only for the research in this project.

1. What year did you come to Canada? _____________________________

2. What is your first language? ______________________________________

3. Did you work with children before coming to Canada? ☐ yes ☐ no
   If yes, what was your job? Check one:
   ☐ teacher in a school ☐ home daycare provider ☐ babysitter in my home
   ☐ ECE or ECA in a pre-school ☐ daycare worker
   ☐ other.... please describe this job:____________________________________

4. Have you ever worked with children in Canada? ☐ yes ☐ no
   If yes, what was your job? Check one:
   ☐ teacher in a school ☐ home daycare provider ☐ babysitter in my home
   ☐ ECE in a pre-school ☐ daycare worker
   ☐ other.... please describe this job:____________________________________

5. What education have you completed?
   ☐ none ☐ elementary school ☐ high school ☐ college ☐ university

6. Have you ever studied in an ECE program? ☐ yes ☐ no
   If yes, where? ______________________________________________
   How long? ________________________________________________

7. How long did you study English before coming to Canada? _____________

8. How long have you studied English in Canada? _________________________

   Thank you!
Appendix C:
Error Correction Task

Name: _____________________________________________

Instructions:
Each of the sentences on the next two pages contains one mistake. Read the sentences and find the mistake and correct it. You can correct it in different ways.

You can cross it out and rewrite it like this under the sentence:

| Jean buys the newspaper last night.    |
| ____________________________________ |
| bought                               |

You can also fill in any missing words or letters like this under the sentence:

| Bill like to swim.          |
| ____________________________ |
| s                           |

***** Remember that there is only one error in every sentence.
1. If my son goes to bed late tonight, he is tired tomorrow.
2. Yesterday, someone call me at home very late.
3. Before coming to Canada, where you lived?
4. If we read to our children, they learning to enjoy books.
5. If it’s too cold, the children should staying inside.
6. Did you came to school yesterday?
7. Children should wear hats if they outside all day.
8. Last night, he watch TV all evening.
9. I was so busy I not have lunch today.
10. If children eat breakfast, they having more energy.
11. Next year I will take a trip to seeing my family.
12. Last summer, we visit Montreal.
13. If a child is hurt, you must to make a report.
14. I get a headache if it starting to rain.
15. The girl likes to read by himself.
16. You must taking a taxi, if you miss the bus.
17. If I using the computer too much, my eyes will hurt.
18. I studying English in school before I came to Canada.
19. Children might start a fire if they playing with matches.
20. Last night, I get home very late.
21. Kim have two toddlers at home.
22. I didn’t drank a coffee this morning.
23. If you walk away from the group, you might got lost.
24. I go to Ottawa with a friend last year.
25. The boy crying if his mother leaves the room.
26. The children didn’t slept all afternoon yesterday.
27. The boy learned to ride a bicycle at the summer.
28. If your child is sick, you should telling the teacher.
29. The child are in the playground right now.
30. Last summer, we go swimming every day.
31. My son goes at daycare every day.
32. If you climb that tree, you might to fall down.
33. My friend win the lottery yesterday!
34. If the child is sick, he must to go home.
35. I have been in Canada since two months.
36. What time you got home last night?
37. Some toddlers wearing diapers only at night.
38. The teacher didn’t gave us a test today.
39. Yesterday, do you forget your book in the classroom?
40. They went out for eating dinner.
Appendix D:

Cloze Task

Mary’s day at work

This story is about an ECE named Mary. Some of the words are missing from the story. Look at the words in the brackets. Change them to best complete the sentence. The first is done for you as an example.

Mary ___ works___ (work) as an ECE in a daycare centre in Toronto. Yesterday, Mary worked from 7:00 am to 3:00 pm and it was a very busy day.

At 7:30 am a new parent came in to register her child. When the parent ________ (leave) the child started screaming. Usually, the parent stays for a few minutes if it ___________ (is) the child’s first day. But the parent had to leave so Mary had to calm down the child by herself.

At 8:00 am, another parent dropped off her boy. Mary ___________ (notice) that he was coughing and sneezing and asked the mother if the child was sick. If a child is sick, he should ___________ (stay) home. The mother insisted that her son wasn’t sick. Mary let the boy stay but she ___________ (have to) watch him carefully the rest of the day.

By 9:00 am all of the children were there and Mary ____________ (begin) to set up for the morning snack. After the snack, Mary saw red spots on the new boy’s face and his face was puffy. If a child has allergies, the parent must _______ (tell) the staff on the first day but this parent didn’t.

Later in the playground, one of the children ________ (fall) off the climber and cut his lip so Mary took him inside and _________ (give) him a cold pack for his lip. When the child’s father picked the child up, he was very upset and told Mary, “If my child ___________ (get) hurt, you should call me immediately.”

In the afternoon, Mary and her co-worker put out the beds and most of the children __________ (take) a nap. By the time it was 3:00 p.m., Mary ___________ (want) a nap too. She thought: “If the rest of the week is like this, I _____________ (need) a holiday soon!”
Appendix E:
Oral Production Task: Past Tense Target Feature
Appendix F:
Oral Production Task: Conditional Target Feature

Kitchen hazards: Children's safety

There are 10 hazards in this scene, can you find them all?

IF.....
Appendix G:
Sample Content Tests

PRETEST

PART 1: TRUE, FALSE or NOT SURE?
Use the blank line to write T for True, F for False or N for Not sure.

1. Call 911 when a child is unconscious. ______
2. The first stage of play is solitary play. ______
3. If a child has a temper tantrum, use the ignoring technique. ______
4. Autism is a physical special need. ______
5. The ratio in an infant room is 1 to 4. ______
6. 4-5 year olds can begin to understand letters and numbers. ______
7. If a child has a cold, they must be sent home. ______
8. A daycare worker who does not report child abuse can be charged by the police. ______
9. A sweet treat can be used to reward good behaviour. ______
10. Only the supervisor of a daycare can report a case of child abuse. ______
11. If a child gets burned, put butter on the burn. ______
12. If you give children rules, they feel safer. ______
13. If a child has a lot of energy and can not concentrate for a long time, it might mean they have Downs Syndrome. ______
14. A skipping rope is a fun and safe toy with which children can play outside in the playground. ______
15. Special needs can be identified physically. ______
16. Very aggressive behaviour may be a sign of child abuse. ______
17. Every First Aid Kit in a daycare centre must have a bottle of aspirin in it. ______
**PART 2:**

**DRAW A CIRCLE AROUND THE BEST ANSWER FOR EACH QUESTION. IF YOU DON’T KNOW, JUST SKIP THE QUESTION AND KEEP GOING.**

1. If a child falls down and cuts his forehead, needing stitches, the caregiver should…
   a) tell the child’s parent about it at the end of the day.
   b) call the child’s parent right away.
   c) call 911.

2. A child may have ADD if she…
   a) have trouble paying attention.
   b) have little appetite.
   c) are very shy.

3. Children must always wear shoes in a daycare in case…
   a) a heavy object falls on their feet.
   b) there is a fire.
   c) they step on a sharp object.

4. A 0-3 month old baby can…
   a) grasp a finger.
   b) roll over.
   c) move objects from hand to hand.

5. If a child has a fever of 38.5ºC, the caregiver should…
   a) talk to the child’s parent at the end of the day.
   b) call the child’s parent right away.
   c) call 911.

6. A sign that a child is being physically abused might be…
   a) bruises or scratches in suspicious locations.
   b) wanted lots of attention.
   c) setting goals that are not real.

7. If a child hits and kicks other children, the caregiver will…
   a) explain that the behaviour is not right.
   b) lock the child in a separate room to protect the other children.
   c) call the parent immediately.

8. If a caregiver has to take away a toy, the caregiver should…
   a) explain why you are removing it.
   b) make sure the child doesn’t see it.
   c) give it to another child.

9. If a child is missing, the first thing a caregiver should do is…
   a) call the police.
   b) call the parent first.
   c) fill in a report.
10. If a caregiver thinks a child has been abused, the caregiver must…
a) tell the child not to worry.
b) call the Children’s Aid Society to report it.
c) ask the parent to take the child to the hospital.

11. If a caregiver thinks that a child might be developmentally delayed, the first thing to do is…
a) talk to the parent
b) call an agency for an assessment
c) talk to the child about it.

PART 3:
WRITE A SHORT ANSWER. YOU DON’T NEED TO WRITE A COMPLETE SENTENCE.

1. What are two ways to safety proof your home daycare?

____________________________________________________________
____________________________________________________________

2. What are two developmental milestones for a child that is three years old?

____________________________________________________________
____________________________________________________________

3. What are two ways to prevent diseases from spreading in a daycare centre?

____________________________________________________________
____________________________________________________________

4. What are two behavioural indicators of child abuse?

____________________________________________________________
____________________________________________________________

5. What are two signs that a child may have Autism?

____________________________________________________________
____________________________________________________________

6. What are two behaviour management techniques that can be used in childcare?

____________________________________________________________
____________________________________________________________
CONTENT TEST A

Unit: Behaviour Management

Name: _________________________

Part 1: Answer T for True or F for False

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1. Corporal punishment should only be used when nothing else works.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Taking away food must never be used as a punishment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. If a child misbehaves, it’s OK to put a child in a locked room away from other children.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Daycare operators must review their policies and procedures for behaviour management once every two years.</td>
<td></td>
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<tr>
<td>5. Teachers should use the same behaviour management strategy for all the children in the daycare.</td>
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<tr>
<td>6. All the staff in a daycare should use the same method to discipline a child.</td>
<td></td>
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</tr>
<tr>
<td>7. If a parent doesn’t follow daycare centre rules, the child might be taken out.</td>
<td></td>
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</tbody>
</table>

Part 2: Write your answers in point form on the lines.

1. What is the difference between punishment and discipline?

________________________________________________________________________
________________________________________________________________________

2. Name three basic needs of a child as defined in the DNA.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3. How does a teacher decide what kind of technique to use for behaviour management?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

4. Name three reasons that a daycare staff might be suspended or fired.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
5. Name three criteria that a supervisor will consider if she has to discipline a staff member.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

6. Name three behaviour management techniques that can be used at any time.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

7. Give one example of positive role modelling

________________________________________________________________________
________________________________________________________________________

8. What is positive reinforcement?

________________________________________________________________________
________________________________________________________________________

9. When would you NOT give a child a choice in order to manage behaviour?

________________________________________________________________________
________________________________________________________________________

10. What should NOT be used as a reward for good behaviour?

________________________________________________________________________
________________________________________________________________________

11. When is it appropriate to ignore a child who misbehaves?

________________________________________________________________________
________________________________________________________________________

12. When should time-out be used to discipline children?

________________________________________________________________________
Appendix H:
Sample Learner Awareness Protocol Report

Name:__________________    Date:____________________________

1. What do you believe was the focus of today’s lesson? Put a check mark in the box. You can choose more than one box.

☐ what daycare policies say about behaviour management
☐ using correct grammar in writing
☐ when to use different behaviour guidance techniques
☐ how to speak using correct grammar
☐ how to summarize information in a policy
☐ what kind of foods contribute to poor behaviour

2. What did you enjoy doing today?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3. What did you find difficult to do?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

4. Do you have any other comments about today’s lesson?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thanks!