

## Effectiveness of Integrating Content and Language Instruction in an EFL Context

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### ABSTRACT

Integrating content and language instruction has recently become popular in many countries. This approach has gained momentum following the inadequacies observed in comprehension-based classrooms, indicating that the learners were unable to develop native-like proficiency and control over L2 production (Swain, 2001). The present study is an attempt to examine how integrating content and language instruction may affect the accuracy of L2 production in an EFL context. Two groups of learners (n= 36; experimental and control) attended twenty sessions in a semester. In order to examine the participants' progress over the term, an achievement test targeting content and linguistic knowledge was administered to both groups during the pretest and posttest sessions. For integration of language into content, the experimental group worked in pairs to complete four focus-on-form tasks (dictogloss) developed on the basis of the content presented to them during the previous sessions. To examine the amount of noticing and progress in the accuracy, their conversations were tape-recorded and transcribed. While performing each task, the learners were asked to write their reconstructed texts in their handouts. The results obtained from the pretest and posttest indicated that the experimental group significantly outperformed the control group in their final scores. It was also revealed that the amount of noticing increased in the experimental group from the first to the fourth task. Furthermore, there was a rising trend in the accuracy of production. The findings lend support to the efficiency of integrating content and language instruction in the Iranian EFL context.

**Keywords:** content-based; output; focus-on-form; dictogloss; accuracy

### INTRODUCTION

Several researchers have delineated the potentials of meaning-based approaches to foreign language learning. Within the psychological perspective, for instance, numerous facilitative roles have been considered for the relatively high focus on meaningful context and content with regard to the current needs and purposes of learners (e.g. Brinton, Snow & Wesche, 1989; Chapple & Curtis, 2000). One of the meaning-based approaches which has received considerable attention in the field of SLA is content-based instruction (Brinton, Snow & Wesche, 1989; Doughty & Varela, 1998; Kasper, 1994; Krashen, 1985; Brinton & Snow, 1988; Song, 2006; Swain, 1985). Content-based instruction, in which language is taught indirectly through the medium of a specific subject matter, involves new ways of making relevant and meaningful connections between the language and learners' needs based on their lives and experiences. The literature on content-based instruction has revealed many psychological and pedagogical benefits including high motivation, increased interest, and

reduced anxiety in learners (Chamot & O Malley, 1992; Iancu, 1997; Pally, 2000; Stoller, 1999; cited in Song, 2006). Nonetheless, there are some cases which do not advocate the whole focus on meaning as offered in this approach. For instance, many scholars argue that within the content-based instruction, specific attention must be paid to the formal properties of the language if utmost levels of linguistic accuracy are to be developed (Long, 1991; Long & Robinson, 1998; Swain, 1985, 2001). It is suggested that content and language should be integrated and taught together and depending on the focus and the objective of the course, the instructors should employ different degrees of integration (Ahmed Shah, 2003; Swain, 2001).

Despite the growing interest in implementing integrated content and language instruction as a somewhat new way of teaching a foreign language, the number of schools and institutes willing to use this type of instruction in Asia and subsequently in Iran is still limited. Moreover, SLA studies concerning the efficacy of integrated content and language teaching, which blends two kinds of courses have been narrowly conducted in EFL context. In the light of the focus of the present study, the question naturally emerges as to whether integrating content and language instruction together with a communicative task focusing on form (dictogloss) can attract EFL learners' attention to linguistic features and consequently improve the accuracy of production and L2 learning.

### **INTEGRATING CONTENT AND LANGUAGE INSTRUCTION**

Content-based instruction as one of the meaning-based approaches has been welcomed by most of the scholars, teachers and material developers (Brinton, Snow & Wesche, 1989). It generally refers to the learning of language through the study of a content area, for example, history, geography, or science. In other words, the subject matter is the focus of classroom instruction, hence, the acquisition of language is seen as a natural consequence or by-product of learning the subject matter (Rodgers, 2006). As Brinton, Snow and Wesche (1989) pointed out, content-based approach provides a larger framework for language development, in which the focus is not only on fragmented examples of correct language forms, but also on interaction and discourse patterns. According to Brinton, Fujiki and Powell (1997), the relevance of the material to the learners' needs and purposes in this type of instruction provides them with an intuitively attractive condition for learning.

Findings in support of content-based instruction (CBI) are abundant in number and each of them welcomes deploying CBI from various perspectives (e.g. Chapple & Curtis, 2000; Kasper, 1997; Kennedy, 1998; Snow & Brinton 1988; Song, 2006). For instance, Kasper (1997) maintained that this program can provide a highly effective medium to meet both academic and linguistic needs of students. To provide evidence on its effectiveness as an approach which corroborates subsequent academic achievements in learners, he administered a study on ESL college students during a four-semester period. His study yielded that not only CBI learners performed better than the control group at the time of instruction, but also they outperformed the control group in the following semester. Similarly, Song (2006) found that in addition to short-term merits, CBI has long-term benefits that impact students' future academic performance.

Snow and Brinton (1988) maintained that CBI classes provide learners with naturally meaningful input. They informed that a language syllabus must consider the uses the learner will make of the target language, which means systematic focusing on those language forms and functions which will best serve the learner in his/her future language use. They stated that the increased confidence in learners is another promising reason for implementing CBI approaches. In their study, 224 students enrolled in a CBI program during 1981-1985. The subjects were mostly Asian immigrants and were freshmen at the time of this course. To collect the students' ideas, they designed a questionnaire which asked participants to rate the

usefulness of the activities and skills presented during the term as well as the global benefits of the course, namely their adjustments to the skills and strategies covered, their abilities to use the resources and also the increase in their self-confidence. The comments extracted from the questionnaire demonstrated the increased confidence in learners. Chapple and Curtis (2000) also indicated the increased rate of confidence and motivation in their students. They investigated the effects of film as content on 31 Cantonese tertiary-level students taking a general education course in English at the Chinese University of Hong Kong. The students were asked to rate their own English language skills development in relation to six specific areas. They were also asked to identify and elaborate on what they had learned in relation to other aspects of the course. The responses showed that they rated their English language skills as having increased in all areas, particularly their speaking and listening skills. Another important breakthrough was the students' rating of their increased confidence when using English. In another research, Kennedy (1998) investigated the effects of a one-year content-based program on Grade 3 students' attitude and achievement. He reported that the students who participated in the CBI program demonstrated more positive attitude than those who did not, although no difference was found in the students' achievement.

Findings obtained from several studies illustrated the beneficial effects of CBI; nonetheless, there are some studies that do not support the whole focus on meaning and purely communicative approaches (Nassaji & Fotos, 2007). In fact, researchers do not seem to have reached a consensus on the efficacy of CBI in promoting both content and L2 knowledge (Xanthou, 2011). Findings from several studies indicate that focusing too much on the content as practiced in CBI instruction does not promote optimal L2 development (e.g., Harley & Swain, 1984). Instead, an integration of content and language involves simultaneous attention to topic of the course and language (Marsh, 2008; cited in Mohd Sharif, 2013). Citing other scholars, Mohd Sharif (2013) argues that CBI does not work efficiently when teachers fail to grasp this underlying methodological concept.

Conducting extensive research in Canada in the 1980s and 1990s, Swain and her colleagues (Harley, 1992; Harley & Swain, 1984) found that without some attention to the formal features of language, learners who received a particular kind of content-based teaching gained non-target-like morphology and syntax even into the higher grades. Their observations about the nature of grammatical instruction and student output led them to recognize that decontextualized grammatical instruction such as paradigms to be rehearsed and memorized, are not sufficient to achieve grammatical accuracy. Therefore, as Swain (2001) has pointed out, content and language should be taught together for effective language learning. Similar to Swain's studies, Day and Shapson (1991) conducted a quasi-experimental study with Grade 7 early French immersion students and found that focus-on-form curricular intervention resulted in significant improvement in students' linguistic accuracy. In order to investigate the effect of focus-on-form on the accuracy of learners in producing conditionals, they administered six experimental and six comparison classes. The results illustrated that there were significant gains in the oral production, but not in the written output. However, investigating the results in their written output after eleven weeks displayed a similar extent of gain in their written production.

Ahmed Shah (2003) presented findings from two content-based language classrooms in a Malaysian school. The study sought to determine to what extent negative feedback and feedback focusing on form were made available to the learners. His findings indicated that the teachers provided negative feedback and feedback focusing on form consistent with theoretical claims made in SLA, which were minimal compared to feedback on content. The results of this study suggested that teachers need to focus more on form, particularly syntactic forms, when providing feedback. Further findings from Ahmad Shah and Othman's (2006) study demonstrated that the opportunities for the production of output in communicatively-

oriented classrooms were considerably limited and unavailable to the students. It is to be mentioned that current views in SLA are almost universally in favor of providing learners with some degrees of focus-on-form within the communicative, meaningful framework. However, the extent to which they employ the technique varies according to the contextual factors (age, level of proficiency, and purposes). As mentioned earlier, an integration of content and language entails simultaneous attention to content-matter and language forms; one way to achieve this goal is to introduce focus-on-form approach and integrate it to the content-based instruction. With this backdrop, it seems relevant to introduce the concept of focus-on-form and examine how it can be integrated to the content and language classrooms.

### **FOCUS-ON-FORM INSTRUCTION**

According to Haley and Rentz (2002), the majority of SLA researchers now support the idea that focus-on-form instruction is beneficial for teaching some linguistic forms, at some point in the learning process. In order to help learners actively engage form and meaning, Long (1991) introduced the notion of focus-on-form and defined it as any pedagogical effort which “draws students’ attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning or communication” (p. 45-46). He distinguished focus-on-form from traditional form-focused instruction (focus-on-form) on the basis of the main focus of instruction. While the focus-on-forms is fulfilled by practicing controlled grammatical exercises, in focus-on-form the presentation of grammatical features arises out of meaning-based activities such as communicative tasks. Spada (1997) also defined focus-on-form as “any pedagogical effort which is used to draw the learners’ attention to form either implicitly or explicitly . . . within meaning-based approaches to L2 instruction [and] in which a focus on language is provided in either direct or in reaction to learners’ errors” (p. 73).

From Long’s recommendation, Doughty and Varela (1998) extracted three criteria for implicit focus-on-form task developments: a) the target of the focus-on-form should arise incidentally in the content-based method, b) the primary focus should remain on communication or meaning and c) the teacher should draw learners’ attention to form rather than leaving it to chance that students will notice linguistic features without any pedagogical help. Theoretical foundation for focus-on-form was also provided by Schmidt (1990) who maintained that focus-on-form teaching techniques are designed to facilitate second language learners’ “noticing” of target language input, where “noticing” is a prerequisite for the acquisition, comprehension, processing, and eventual integration of new grammatical knowledge. According to Schmidt (2001), noticing and attention are significant notions to understand processes involved in L2 acquisition. He claimed that “people learn about the things they attend to and do not learn much about the things they do not attend to” (Schmidt, 2001, p. 30).

Given the fact that it is not simple to direct learners’ attention to linguistic forms while their focus is on meaning, the instructor needs some instruments that can facilitate their noticing and awareness of the mismatch that might exist in their interlanguage while they are interacting. Gass (1997, cited in VanPatten, 2004a) maintained that when learners are involved in an interaction, they can focus on the necessary part of input which is required for conveying the intended meaning. Besides, she argued that the collaborative interaction that is needed in performing the task alters the task demands on the learner during the processing of input. This alteration will subsequently free up attentional resources and aids the learners to process and notice something they might have missed. Gass (1997, cited in VanPatten, 2004a) further proposed that bringing focus-on-form instruction to classes can occur by implementing communicative tasks, which are used as attention focusing devices for making connections between form and meaning. Ellis, Basturkmen and Loewen (2002) also

contend that although communicative tasks are primarily designed for focusing on meaning, paying incidental attention to form by the teachers and learners cannot be avoided. The crucial point is that input provided by tasks becomes available for attentional resources and learners' attention is focused on a particular form or meaning.

Several SLA scholars have recommended integrating focus-on-form instruction into the meaning-based approaches by employing communicative tasks (Doughty & Varela, 1998; Doughty & Williams, 1998; Ellis, Basturkmen & Loewen, 2002; Pica, 2007; Spada, 1997, 2011; Swain, 2001; Williams & Evans, 1998). For instance, Doughty and Varela's (1998) study indicated that unobtrusive but targeted focus-on-form played more facilitative roles in comparison with the mere meaning-based approaches. They also suggested focusing on one single form rather than multiple forms at the time of instruction. The study conducted by Muranoi (2000) also indicated that explicit grammar instruction plays profitable roles in helping L2 learners develop their interlanguage when it is systematically incorporated into an interactive problem-solving task. He concluded that brief and focused explicit grammar instruction can exploit positive effect on L2 learning when it accompanies an interactive communicative task that makes the relationship between form-function more salient.

Reviewing a number of studies on focus-on-form, Doughty and Williams (1998) concluded that expecting learners to explore the form-function relationships and the intricacies of the new language does not seem sensible. They argued that leaving learners alone in finding the form-meaning connection cannot result in beneficial developments in learners. To implement focus-on-form approach, they identified several pedagogical procedures ranging along a continuum describing degree of obtrusiveness of attention to form during instruction. One such task that encourages learners to create meaning and process language grammatically is dictogloss (Wajnryb, 1990). Beneficial effects of dictogloss have been reported in several SLA studies (e.g. Kowal & Swain, 1994; Nabei, 1996; Swain, 1998). The task not only encourages learners to attend to linguistic forms in the input but also provides an opportunity to produce output and notice the gaps between their interlanguage and the target language. During a dictogloss task, the teacher reads out a short text to the learners while they are listening carefully. As the teacher is reading the text for a second time, the learners begin jotting down the key words that would be needed for the next step, which is the text reconstruction stage. In this step, the learners interact in pairs to reconstruct the original passage. In the process of task reconstruction, the students discuss language problems realized in either their interlocutor's or their own output and consequently pool their linguistic resources to solve the problem. The discussions implemented during pair interaction can be demonstrated by 'language-related episodes' (LREs). During LREs, learners discuss their own or their interlocutors' output, hence if there exists an erroneous utterance, learners work collaboratively on it. Providing learners with opportunities to discuss their linguistic problems within a content-based environment especially through collaborative dialogue between learners may bring consequent advantages to the learners.

### **STATEMENT OF THE PROBLEM**

In the context of Iran, a small number of language institutes and schools have adopted methods and approaches with the focus on students' needs and wants. The majority of the schools that deals with teaching English in our country are diligent in improving some specific aspects, particularly students, more than the others. Since most of the institutes in Iran are implementing language-centered approaches, a considerable amount of attention is spent on teaching discrete forms, grammatical features and also pronunciation. Because of their nature, traditional approaches have summarized language to teaching grammar and practicing formal features of the language. Without being able to stand alone as

communicative acts in their own right, these features and aspects are practiced more than those with the communicative purposes. Since the advent of communicative approaches in language teaching, the researchers' debates have mainly revolved around how to foster and encourage the communicative use of language in the learners.

Although it is claimed by most of our institute managers that they offer communicative instructions, their assessments is predominantly based on grammatical criteria. This extensive focus on formal features of language creates a boring and lifeless environment for both the teachers and the learners since the input provided is not natural. On the other hand, as Snow and Brinton (1988) maintained, CBI classes provide learners with naturally meaningful input. Furthermore, many psychological and pedagogical benefits, including high motivation, increased interest, and reduced anxiety in the learners have been cited for CBI in the literature (Song, 2006). As Short (1991) stated, when English instruction provides the occasion for practice and review of selected information from the content courses e.g., science, math and history, it becomes more beneficial in the eyes of those students who are less enthusiastic and non-intrinsically motivated, particularly in countries where English is not needed for daily communication of people. Besides, at lower proficiency levels or in classrooms where less time is devoted to L2 study, learners normally gain greater success in concrete and contextualized content matter in comparison with classes providing highly abstract contents. However, as reported by some researchers, these mentioned gains were mostly related to the fluency in learners rather than their accuracy (Spada & Lightbown, 1989; Harley & Swain, 1984). As a compensation for the accuracy problems in the learners' productions, they have recommended integrating language and content (e.g., Swain, 2001). However, little (if any) research has been conducted on this type of integration in our country. Being aware of the conditions dominating EFL situations, where less time is devoted to foreign-language learning, we can consider it promising to provide learners with the concrete and highly-contextualized content combined with language as practiced in the focus-on-form approach (e.g. Doughty & Varela, 1998). Therefore, it seems reasonable to conduct a study in an EFL context by virtue of the promising results it has brought in other EFL and also ESL contexts.

## **RESEARCH QUESTIONS**

The present study is an attempt to address this issue by focusing on the following research questions:

1. What are the relative effects of integrating content and language instruction on the development of linguistic and content areas of Iranian EFL learners?
2. How does integrating content and language instruction promote students' attention to linguistic features?
3. What are the relative effects of integrating content and language instruction on the linguistic accuracy of L2 production?

## **PARTICIPANTS**

Two intact classes at elementary level from a private language institute (Simin, located in Sari, Iran) participated in this study. We had to limit the participants to 36 only, due to the difficulties involved in finding samples who are willing to participate in this particular type of project. Getting the cooperation of the institute managers was another challenge. The participants in this study are almost identical to those of Doughty and Varela's (1998) study. They are all male students within the age range of 11 to 14 years. Since the timetables of these two classes were different, the learners had no contact with each other, and therefore,

they were not aware of what was happening in the other class. One of the classes (n=18) was randomly assigned as the control group (or non-integrated content and language group) while the other class (n=18) was considered as the experimental group (or integrated content and language group) in which the treatment of the study, i.e. content-based instruction and focus-on-form, was carried out. The two groups attended a 10-week semester, twice a week (each session lasting about 90 minutes).

Both groups attended classes in the same institute taught by one teacher who majored in TEFL (one of the researchers of this study). The teacher is a female native speaker of Persian with 4 years of EFL teaching experience in the same institute. In order to compensate for the lack of an expert in the two subjects (science and EFL), the teacher frequently visited one of the elementary science teachers at a state school, observed her classes and looked at different materials provided for the students of the same level. Following the negotiations with the teacher and reading several related articles, she came up with a general framework for teaching the science textbook considered for the integrated content and language instruction.

### INSTRUCTIONAL MATERIAL

Two sets of materials with differing degrees of attention to language and content were deployed in the present study. The control group attended a communicative class in which the students were taught *Interchange Series* (Richards, 2005) along with a workbook, a video and an audio material (CD). Each book contains 16 units consisting of different general topics, but only 7 units of the book were covered. The next group was designated as the integrated content and language group which used the material grounded in a specific discipline. The material considered for this group was a science text-book (*New Science in Everyday Life* by Gupta and Gupta, 2010), used by middle school students in India. The package of material intended for this group included an accompanying interactive CD, which introduces young learners to the world of science and also helps them be more aware of their immediate environment. In this class the teacher covered 7 preset units with topics on types and uses of plants, animals that help us, wild animals and so on. For integrating language, four dictogloss texts were developed based on the materials in the textbook.

### TESTING MATERIAL

In addition to the instructional material, a test consisting of two sections (A & B) were given to both groups of learners as pre- and post-test of the study. Section A, the content and language section, was adopted from *New Science in Everyday Life* (Gupta & Gupta, 2010) which was not available to the learners. There were 50 items in this section, including matching activities, fill in the blank, checking, drawing and some open-ended questions. Section B consisted of items targeting general linguistic knowledge, which was a validated test from *Interchange textbook* (Richards, 2005). The test contained a representative sample of the course material covered in this semester (50 items) and in various formats including fill in the blanks, checking, multiple choice tests, cloze and open-ended items. The validity of the test was estimated by careful analysis of the test items as well as course objectives and comparison of the test result with other independent assessments such as Nelson test and teacher's ratings. In scoring these tests, one point was given for each correct answer and zero for each incorrect one.

## PROCEDURE

The participants in each group attended separate classes with different approaches over a 10-week period. While the integrated language and content group was going through a specific content during this particular term, the other group passed their conventional course by studying a book from Interchange Series (“Intro”, third edition). In order to ensure that the results obtained at the end of the course were due to the treatment presented to the learners and not the learners’ prior knowledge, a pretest was administered to both groups during the first session. To assess the improvement over the term, the last session was also dedicated to the posttest. To integrate content and language, four dictogloss tasks were designed based on the content of the materials covered in previous sessions. Two training sessions were also provided for this class.

During the dictogloss task, the texts were read aloud twice to the students at normal speed while they took notes. The students then worked in self-selected pairs to reconstruct the text as similar as possible to the text read by the teacher. The dialogue of each pair (n=9 pairs) was tape-recorded as they were performing the tasks. They were asked to talk into a tape recorder either in L1 or L2 so that the researchers could transcribe it later for analysis. Each recording lasted about 30 minutes. As the analysis of their voices depicted, learners particularly those who were the less proficient of the class (5 pairs) put most of their efforts together to convey their meaning through the use of their mother tongue. Although using L1 was not considered as a taboo for the learners on the part of the teacher, it was the policy of the institute to run the classes in English and prohibit L1 use. The analysis of their interactions meticulously revealed that as they wanted to thoroughly delineate their meaning through L1 use by moving their heads away from the recorder and lowering their volume. Hence, coming up with the poor tape recordings of these pairs, the researchers decided to confine the analysis of transcripts to four out of nine pairs. The transcription of each pair’s dialogue was analyzed in terms of language-related episodes (LREs). According to Swain (1998), LREs are defined as “any part of a dialogue in which students talk about the language they are producing, question their language use, or other- or self-correct”(p.70). Following previous studies (Abadikhah, 2011; Fortune and Thorp, 2001; Kowal and Swain, 1994; Leaser, 2004; Nabei, 1996), LREs were divided into several major categories including grammatical, meaning-based, orthographic and discourse.

As some SLA scholars have argued “it is difficult to gain an understanding of learning and development from observations of the final state, when we have no record of the content of the learners’ years of exposure to language, nor of the developmental course of their proficiencies (Ellis & Schmidt, 1997; cited in Reinders, 2009, p. 203). Therefore, to examine the learners’ progress over the four sessions, they were additionally asked to write the reconstructed text in their handouts while negotiating ideas. The handouts of all learners (9 pairs) obtained during the four sessions were later analyzed for the accuracy rate. Following Mehrnet (1998, cited in Ellis & Barkhuizen, 2005), the accuracy of production was measured through dividing the number of errors by the total number of words multiplied by one hundred. Therefore, these analyses could allow us to explore not only the effects of this particular treatment on the ‘final product’ but also the ‘process’ of language development (Reinders, 2009).

## FINDINGS

The first research question addressed the relative effects of integrated content and language instruction (ICL) on the development of linguistic and content areas of Iranian EFL learners. The descriptive statistics for the pretest and posttest administered for the two groups are presented in Table 1.

TABLE 1. Descriptive statistics for the pretest and posttest scores

Groups	N	Pretest		Posttest		Gain
		Mean	SD	Mean	SD	
Experimental (ICL)	18	34.44	6.69	56.66	9.65	22.22
Control (non-ICL)	18	32.94	7.51	48.88	6.83	15.94

ICL: *Integrated content and language*

As the data in table 1 shows, the two groups scored similarly on the pretest session and indicated a considerable amount of progress on the posttest; however, in order to make sure that the progress in the posttest was due to the treatment and not their prior knowledge, we conducted an independent samples t-test on the overall test scores obtained from the pretest session; the result of this analysis showed no significant difference between the two groups at the .05 level ( $t=.632$ ,  $df=34$ ;  $p=0.53$ ). A short glance at Table 1 shows that the progress of the two groups are not comparable since the mean gain score (obtained by subtracting the pretest score from the posttest score) for the ICL seems to be much higher than that of the non-ICL group. Dealing with two separate groups in this study required running an independent samples t-test to examine whether there was any difference in the gain scores obtained. Table 2 displays the summary of results obtained from this analysis.

TABLE 2. Comparison of the gain scores of the two groups (independent samples t-test)

	ICL		Non-ICL		t	df	Sig
Gain scores	Mean	22.22	Mean	15.94	2.937	34	.006
	SD	5.69	SD	7.05			

ICL: *Integrated content and language instruction*  
 $p<.05$

As presented in Table 2, there is a significant difference between the mean gain scores of the two groups ( $p=.006$ ). Hence, it can be concluded that the ICL group made considerably more progress than the non- ICL group from the pre- to posttest.

The second research question examined whether integrated content and language instruction (ICL) can attract learners' attention to linguistic forms during task performance. To this end, the LREs coded in the transcripts of four pairs of learners during the first and the last task were examined to determine the degree of attention to form and meaning in the ICL group. The results obtained from this analysis showed that there were some routes of attention to linguistic forms. To illustrate this, we present two excerpts from the transcript of two pairs of learners.

**Extract 1:** Grammatical LRE: agreement in number (produced by Pair 2)

1. A: There are many types of plants around us, and (...) they have different size and shape.
2. Y: Different sizes and shapes

**Extract 2:** Grammatical LRE: verb form-active/passive (produced by Pair 1)

1. M: Yes. They live on very cold or hot places. The big and tall plants, big and tall plants we call them trees
2. P: Are called trees.

In these two excerpts, the learners were discussing two different forms. Pair 2 noticed the problem in agreement (*different size and shape*) and Pair 1 discussed the grammatical form of the verb (*we call them trees*). It is interesting to note that both pairs solved the problems correctly (*different sizes and shapes; they are called trees*). It seems that the learners'

discussion of linguistic features in this task is affected by the degree of their attention to meaning. The displayed examples in Extracts 1 and 2 revealed the route of attention to some grammatical features of L2, however, in other cases, most of their efforts were spent on conveying meaning to their partners rather than focusing on the grammatically ill-formed structures. Extract 3 illustrates the case in which noticing the grammatical problem was unfulfilled:

**Extract 3:** Meaning-based LRE: meaning-text (produced by Pair 2)

- 1 A: They are grow in the land and water, in the
- 2 Y: On the, on the on the... They are grow on the land and in water, they are grow on the cold and hot
- 3 A: *Hava chi mishe?* (How do you say 'hava' in English?), Weather?
- 4 Y: *Areh.* (Yes) On the cold weather and...
- 5 A: Hot weather.

As depicted in Extract 3, although there were some ill-formed structures (*are grow* and *on the cold weather*), the learners did not notice the problems in their production. According to their level of proficiency and their ability over communicating the intended meaning, some of the learners in ICL class were mostly engaged in conveying their meaning, i.e. searching for the appropriate word or defining the meaning of a word or sentence (see Lines 3&4). The focus on meaning prevented them from paying some amount of their attention to form. In fact, as VanPatten (2004b) proposed, because of limited working memory capacity, learners cannot focus their attentional resources to all parts of the input simultaneously. The quantitative findings obtained from the transcripts of these four pairs with regard to the amount of attention to different categories of LREs was calculated by counting the number of LREs. The following table shows the different categories of LREs identified in the transcripts of four pairs of learners in the ICL group during the first dictogloss task.

TABLE 3. LREs identified during Task1

Pairs	Meaning-based	Grammatical	Orthographic	Discourse	Total
P1	1(M-def)				4
	3 (M-search)	0	0	0	
P2	1(M-sen)				3
	1(M-choice)	1(G-agr)	0	0	
P3	1(M-sen)				7
	3(M-search)	2(G-pre)	0	1	
P4	1(M-choice)				4
	2(M- search)	0	0	1	
Total	13 (68.42%)	3(15.78%)	0	2 (10.52%)	18

*P: Pair; M-definition: Definition of words; M-search: search for meaning; M-sen: Meaning of a sentence; G-pre: Grammar-preposition; G-V: Grammar-verb form; M-choice: Lexical choice; G-agr: Grammar-agreement.*

Table 3 shows that the meaning-based episodes drew the maximum amount of learners' attention (68.42%) during the first dictogloss task. It seems that the learners were mostly engaged with the content of the text to be reconstructed, that is, meaning and discourse (78.94%) rather than grammatical points (15.78%). However, the results obtained from the final dictogloss (task 4) displayed more varied LREs during their interaction. The following table reports on this variety and change of LREs from Task 1 to Task 4 produced by the same pairs of learners.

TABLE 4. LREs identified during Task 4

Pairs	Meaning-based	Grammatical	Orthographic	Discourse	Total
P1	1(M-def) 1(M-sen)	2 (G-pre)	0	1	5
P2	0 4(M-choice)	1 (G-pre)	1	2	4
P3	1(M-sen) 1(M-def) 1(M-search)	3(G-prep) 1(G-V)	0	1	12
P4	1(M-search)	2(G-V)	1	1	5
Total	10(38.46%)	9(34.61%)	2(7.69%)	5(19.23%)	26

*P: Pair; M-sen: Meaning of a sentence; G-pre: Grammar-preposition; M-definition: Definition of words; G-V: Grammar-verb form; M-choice: Lexical choice; G-agr: Grammar-agreement; M-search: search for meaning*

As can be seen in table 4, during the final dictogloss task, the amount of attention to grammatical forms increased in number (in comparison to the first task) and more variety of LREs may be the result of getting more familiar with this kind of task and paying more attention to make linguistically better utterances. Although LREs focusing on meaning and discourse (57.69%) outnumbered those on grammatical features (34.61%), this cannot be regarded as an end in this short-term study. The difference in the total number of LREs between Task 1 and Task 4 and occurrence of more LRE types in Task 4 may indicate greater amount of students' attention to language forms and their deeper level of focusing on their production by the passage of time. It is clear that as the learners approach the end of the sessions, their attention is attracted to different categories of LREs; in fact, they can view language in a broader perspective, including a variety of features such as meaning, grammar, orthographic and discourse.

With respect to the third research question, that is, the relative effects of integrating content and language instruction on the accurate production of students, ICL students' reconstructed texts during dictogloss tasks were analyzed. The accuracy of production was measured by applying error per one hundred words. The descriptive statistics for the data obtained from the learners' handouts during the four sessions are presented in Table 5.

TABLE 5. Descriptive statistics for ICL pairs' handouts

	Number of pairs	Minimum	Maximum	Mean	SD
Reconstructed text 1	9	23.00	76.00	52.11	15.25
Reconstructed text 2	9	22.00	80.00	55.38	17.69
Reconstructed text 3	9	20.00	84.00	57.50	18.80
Reconstructed text 4	9	26.00	92.00	63.72	21.75

The table shows a rising trend in the mean scores of the learners from Text 1 to Text 4 during the dictogloss tasks. To check for the improvement in the accuracy, a repeated measures ANOVA was conducted on the four sets of scores. The result of this analysis is summarized in Table 6.

TABLE 6. Repeated measures ANOVA (test of within-subject effect)

General measure	Sum of Squares	Df	Mean Square	F	Sig.
Test	1292.48	3	430.82	22.38	.000

*p < .05*

Table 6 reveals a significant difference in the mean scores of the four handouts ( $p=.000$ ), indicating that the accuracy of production of ICL learners significantly improved during the four dictogloss tasks. Therefore, it can be concluded that the integration of focus-on-form technique into the ICL class had a significant effect on the accuracy of producing linguistic features.

## DISCUSSION

This study sought to examine whether integrated content and language instruction can be a replacement for the communicative approach to language teaching in the Iranian EFL context. The test administered in the study provided the opportunity for comparing the progress made in learners from pre- to posttest. After obtaining the results by running various t-tests and the descriptive analysis of the tests, the results revealed that ICL learners with the sum of 22.22, compared to non- ICL with 15.94, showed greater progress. The study revealed that the achievements gained by the ICL learners in the general linguistic and content knowledge were higher than those achieved by the other group. This finding was akin to almost all the studies conducted so far (Snow & Brinton, 1988; Chapple & Curtis, 2000; Kasper, 1997; Kennedy, 1998; Song, 2006; Swain, 1998). In line with what Swain (1998) reported in her study, ICL learners in the present study displayed significant improvements in the science content which was the predominant focus of the classroom context.

Numerous studies have suggested the integration of content and language for rendering a more holistic view of learning (Doughty & Varela, 1998; Doughty & Williams, 1998; Ellis, Basturkmen & Loewen, 2002; Long 1991; Pica, 2007; Spada, 1997, 2011; Williams & Evans, 1998). To obtain data for the current study, tape-recording was implemented; without being aware of the researchers' unstated goal of drawing their attention to the formal features of language during the dictogloss task, the learners showed great improvements in the amount of attention paid to different linguistic features. Requiring functional use of language to convey meaning without any pressure for grammatically accurate use of language resulted in paying much of their attention to the urgent part of the language, i.e. meaning, during the first task. However, the results obtained from the final task show that the amount of attention paid to meaning-related LREs (38.46%) was lower than that of the first task (68.42%), while in regards to the grammar-related episodes, the amount was almost doubled and changed from 15.78 % to 34.61% . The change observed during the interaction of these four pairs revealed that getting more familiar with this type of task and the amount of control over communicating the content have beneficial effects on the attention of these learners. The progress found in the amount of attention to various types of LRE seems to be a great shift from their starting point (beginning of the term); therefore, it can be considered promising to the teachers and learners alike. This finding can be discussed by referring to VanPatten (2004b) who contends that learners search for the meaning when faced with the input and they consider form as a secondary and less urgent part of any communicative message when limited resources are available. Hence, it can be discussed that having more free attentional resources at hand during the final dictogloss task, these learners made better and more comprehensive use of language.

Prabhu (1987) stated that there are some factors that can make a task less complex. The degree of familiarity of learners with the content presented through the task can make a task less demanding to the learners and consequently as stated by VanPatten, Williams and Rott (2004), make the conditions ready for the learners to focus on the form to make more grammatical utterances. To this end, the teacher did her best to make the tasks presented to learners as clear and familiar as possible. Swain (1998) also refers to learners' familiarity with the procedures required to fulfill the task objectives as another factor that can enhance the value of this kind of task. Hence prior to presenting each task to the learners, content was

taught and discussed in the previous sessions. Being familiar with the content also made learners more confident in doing the tasks and gave them the opportunity to have ideas to share for reconstructing them.

Another source of data deployed in the current study was the reconstructed texts collected during the four dictogloss tasks from the ICL learners. These texts were analyzed for addressing the third research question. The findings obtained from the handouts revealed more accurate use of target linguistic features during the subsequent dictogloss tasks. This general rising trend suggests the improvements in terms of accuracy in the ICL learners. As discussed earlier, learners' gradual familiarity with this type of task can be regarded as one of the reasons for this gentle, steady improvement in terms of accuracy.

Although the results displayed significant degrees of improvement in ICL learners, there were still some non-target like performances. Possible explanation for the non-target like performances in learners, despite the improvement in their accuracy of some features (subject-verb agreement, passive verb and prepositions), could be the shortage of time and paucity of tasks that were presented to them during these two and a half-month term. According to VanPatten, Williams and Rott (2004), "the increase in the exposure of learners can result in adding complex layers of meaning and usage to the connections they made earlier" (p. 6). In his robustness discipline, VanPatten and his colleagues stated that subsequent input can make the initial weak connections between the form and meaning stronger. So it can be discussed that being overwhelmed by conveying their meaning during the first times of exposure does not allow the learners to be aware of or to notice the gap that might exist in their knowledge and may result in erroneous production in some features. However, this lack of attention can be alleviated by more exposure to input.

Another interesting finding of this study was the ICL learners' willingness to continue the course. They were so eager that they often chose to stay in the class longer than the allotted 90 minutes. Unlike the students in the non- ICL class, almost all ICL learners were attending the class fifteen to thirty minutes before the set class time which can be regarded as a sign of the attraction ICL had for these students. In order to examine whether the learners would volunteer to participate in an identical class for the following terms, the final session was dedicated to an informal interview with the whole class. The learners' ideas on the fruitfulness of this method of teaching ranged from the usefulness of answering the questions in pairs to the lively, vibrant class environment.

In addition to the learners' positive attitude towards deploying the same materials for the following terms, another triggering and motivating factor was revealed to the researchers. Although one could see some degrees of stress in the learners during the first sessions, there was almost no worry or tension in them during the second half of the term, since the learners could rely on a partner when they needed help. Relying on a joint task reconstruction and the availability of shared resources for each pair can facilitate the process of task performance and thereby create more opportunities for metatalk. When this output production accompanies meaningful use of language in the dictogloss task, it provides opportunities for learning the target language (Swain, 2001).

## CONCLUSION

Despite all the call in the literature for more innovative approaches to language teaching, the institutes and state schools in the Iranian context still prevalingly employ traditional approaches to language teaching under the cover of communicative approach. This study calls for the need to integrate content and language as has been well established in the studies conducted by many researchers, namely, Ellis, Basturkmen and Loewen (2002), Rodgers (2006) and Swain (2001). The results of this study suggested that deploying content and

language instruction results in beneficial outcomes in our EFL context. Drawing learners' attention to form within a meaningful context by implementing dictogloss task could result in acquiring those forms; hence, this study can be propitious for learners and can also ensure administrators and teachers of their ability to exchange this new approach with their traditional approaches.

Despite these positive findings, it is necessary to acknowledge the limitations of this study. The data collection procedure employed for the present study occurred during a short period of time (two months and a half). The need for longitudinal accounts of the present study may yield more interesting results in this regard. Besides, learning is such a complicated process that we cannot expect all learners to depict what they have learned at the limited time of one single term. It is likely to observe the trace of the benefits obtained from the present study in their subsequent performance in the following terms. We intended to work on three groups of learners, including a content-based group; however, we were unable to secure the consent of the administrators of the institute for this purpose, so we limited the study groups to the two communicative and integrated content and language. Considering the small sample size of the study, no generalization or claim can be made regarding the findings, in particular, the priority of this integrated language and content approach to the content-based instruction. Therefore, it is recommended that the present study be replicated with a larger sample involving three groups of learners (integrated content and language group, communicative group and content-based group). Previous studies have shown that learners respond differently to instructional materials depending on their level of language proficiency (e.g. Abadikhah, 2012; Iwashita, 2001; Leeser, 2004; Williams, 1999); similarly, we observed that some students, due to limited proficiency in L2, were unwilling to let their voice be recorded whenever they needed to resort to L1 use. Therefore, basing the analysis on the mere audio-taped conversation was not satisfactory since these deficient recordings could not satisfy our need for obtaining sufficient data for LRE analysis in all pairs. This observation leads us to suggest that further research be conducted to consider learners' status and level of participation as well as factors such as proficiency level, L1 use and gender that prevent or enable greater participation during collaborative tasks. Drawing learners' attention to form within a meaningful context by implementing various tasks (e.g. 'spot the difference' and cloze' tasks as illustrated in Pica, 2007) can also be explored in future studies.

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