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The Effects of Pre-Speaking Planning on Students' Performance during Speaking Tasks

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The Effects of Pre-Speaking Planning on Students'
Performance During Speaking Tasks

Céline Gaillard

A thesis submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of
Master of Arts

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ABSTRACT
The Effects of Pre-Speaking Planning on Students'
Performance During Speaking Tasks

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Research has explored the impact of various planning types (i.e. different ways to help students prepare for a language task by, for instance, giving them time and/or specific instructions) on the fluency, complexity, and accuracy of second language learners (e.g., Ellis, 2009). However, results have been mixed and studies have never investigated the impact of pre-speaking activities such as those proposed by Thompson (2009), a teacher-led planning focusing on both form and content with students. Previous research suggests that this type of planning could benefit students: Foster & Skehan (1999) believe that teacher-led planning is effective in comparison to other planning types, and Sangarun (2005) demonstrated the benefits of planning involving both content and form instead of planning focusing on content or form only. Moreover, because anxiety negatively impacts the production of second language learners (Horwitz, Horwitz & Cope, 1986), this study also examines whether planning activities can reduce student anxiety during speaking tasks.

To this end, the present study examines the impact of three different planning conditions, namely no planning, solitary planning and Thompson's teacher-led planning, or Prelude to Conversation, on the fluency (measured through total duration of the speech sample, words per minute, and pauses per minute), complexity (measured through the words per utterance), accuracy (measured through the percentage of errors), and anxiety level (measured through anxiety scales) of 37 students performing short speaking tasks. Subjects were all enrolled in first semester French classes and were divided into three groups that rotated through the three planning conditions, each group starting with a different planning type in the cycle. Each week, the speaking task was common across all subjects, but depending on the group, the treatment was different. Their performance level during the speaking task and their anxiety level were compared for each treatment.

Results show that planning has an impact on the fluency, complexity, and accuracy of the students but not on their anxiety level. Findings also show that pre-speaking has a more positive influence on the quality and the quantity of production of the students than solitary planning and no planning. Task and pre-task anxiety influenced the anxiety level of the students, demonstrating the role that specific tasks can have on student performance no matter how teachers try to prepare them for the tasks. Results also suggest that more personal-oriented tasks, e.g., student schedules, will elicit better responses than more outward-oriented tasks, e.g., school systems, cultural differences. This study also supports previous research that has shown the importance of creating a classroom where the anxiety is low.

Keywords: planning, pre-speaking, teacher-led planning, fluency, complexity, accuracy, anxiety

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List of Abbreviations

FLCA = Foreign language classroom anxiety

FLCAS = Foreign language classroom anxiety scale

FP = Form-focused strategic planning

L2 = Second language

MP = Meaning-focused strategic planning

MFP = Meaning/form-focused strategic planning

No-PI = No planning

SE = Standard Error

Sol-PI = Solitary planning

T-led PI = Teacher-led planning

Chapter 1: Introduction

“The challenge of language instruction, and the justification for the role of the teacher, is that it can efficiently induce learners to be able to do things with language that they could not do before.” --- Foster & Skehan (1999, p. 215)

Teachers want their students to be as proficient as possible, and to this end, they have investigated how to improve the receptive and productive skills of the second language (hereafter L2) learners. They have for instance examined different ways to provide scaffolding to students (Ellis, 2003). Many teachers provide such support by including so-called “planning time” while in class, meaning that students are given time to think about the task they have to perform. A number of studies (Ellis, 2009; Foster & Skehan, 1996; Mochizuki & Ortega, 2008; Wigglesworth, 1997) have investigated the impact of planning on oral language production, and their results have unfortunately been conflicting.

Researchers have not only examined scaffolding but also anxiety, which has been proven to have a negative impact on each of the four skills, thus demonstrating the need for teachers to know how to decrease the affective filter in their classroom (Aida, 1994; Frantzen & Magnan, 2005; Horwitz, Horwitz & Cope, 1986). Together, this begs the question, what type of planning is best at helping students perform as well as they can while minimizing their anxiety to do so.

Planning and Anxiety

There are many types of planning, each with a different outcome and a different impact on language performance. For instance, pre-task planning, i.e. planning taking place before the performance of a task, can be done individually by the student (“solitary planning”), can be done in a group, or can be led by a teacher. All studies on planning focus on the effect of this preparation on the fluency, complexity, and accuracy of the L2 students. Most studies (e.g.,

Foster & Skehan, 1996; Foster & Skehan, 1999; Ortega, 1999; Yuan & Ellis, 2003) demonstrate that pre-task planning enhances students' performance. Results, however, have been mixed about the impact of planning on complexity and especially accuracy.

Planning can be manipulated by teachers, who can decide how much time is allotted to plan, as well as when (before or during the task) and how it is done (individually, in group, or led by the teacher). This consequently opens the doors to research on the topic. No one has ever investigated the impact a condition which involves a teacher preparing to engage students in terms of both content and form before a speaking activity (a condition called pre-speaking, or Prelude to Conversation by Thompson as outlined in Thompson and Phillips (2009). However, previous research shows that the impact of Thompson's approach on performance is promising. For instance, planning led by the teacher has been proven to produce better accuracy, the measure that creates most discrepancies in the research on planning (Foster & Skehan, 1999). Preparing students using Thompson's method could also bring a balance to students who usually focus on form when they are given time to plan (Ortega, 2005).

Although the impact of planning on fluency, complexity, and accuracy has received attention, the impact of planning on anxiety has not yet been determined. Because speaking activities raise the affective filter more than activities using the other skills (Horwitz, Horwitz & Cope, 1986), it seems essential to conduct research that determines what teachers can do to reduce the anxiety of their students. If planning can be shown to lower anxiety in the second language or foreign language classroom, such research would provide insights that could help teachers reduce the affective filter of their students. Ortega (2005), who explored the metacognitive, cognitive, and affective strategies used during pre-task planning, showed that once again, the impact of planning leads to mixed results. Some participants reported that

planning helped them feel less stressed during the task whereas others described that planning added a certain amount of pressure. Ellis (2009) recognized the need to “examine how individual learner factors such as learners’ attitudes towards planning, their working memory capacity, and their degree of language anxiety affect how they rehearse a task, engage in strategic planning, or carry out on-line planning” (p. 505).

This study will aim to answer Ellis’ challenge and will explore the impact of pre-task planning on the anxiety level of the students with the intent to improve the proficiency level of learners. If pre-speaking, or Prelude to Conversation, is proven to decrease the affective-filter and to improve students’ performance, teachers will benefit from this research by knowing how to best provide scaffolding and planning time to their students, which will consequently empower the students in their language skills.

Definitions

Before introducing the research questions, it is critical to clearly define what is meant by a number of terms that will play a key role in this thesis, namely Thompson’s teacher-led planning, no planning, and solitary planning. One of the greatest hurdles to comparing the previous research examining the benefits of planning types has been that most researchers have failed to clearly define and delineate what they have meant by the various planning types they have tested. Without clear definitions, we cannot appropriately assess the benefits of various approaches to planning activities for speaking. To this end, I define each of the three planning types (or lack thereof) used in this thesis.

No planning

Under the no planning condition, subjects are required to perform the oral task immediately after having read the prompt for the task. It has been studied by other researchers

such as Ortega (2005) and Yuan and Ellis (2003). In short, this means that subjects produce speech spontaneously without preparation.

There are two types of pre-task planning that will be studied, namely solitary planning and Thompson's teacher-led planning, also known as Prelude to Conversation or more generally pre-speaking.¹

Solitary planning

Solitary planning is a type of pre-task planning activity. It allows students to prepare for a task after they see the prompt to which they must respond. In the study described in this thesis, subjects were given five minutes of preparation, but this is not always the case: in other studies, they have been given more or less time to plan (Foster & Skehan, 1996; Menhert, 1998). Solitary planning can also be guided or unguided. In the guided condition, students can be directed regarding what to plan (i.e. content/form). In this experiment, solitary planners were not provided with any direction as to how to plan and were simply told to brainstorm for the speaking task for five minutes before starting to speak. This allowed them to focus on either form or content as they saw fit. Although they were allowed to write notes, they were instructed not to write full sentences. Their notes from their brainstorming were collected before they began their speaking task.

Thompson's (2009) teacher-led planning or Prelude to Conversation

The final type of planning investigated here is a variety of teacher-led planning also known as Prelude to Conversation or "Pre-Speaking" as developed by Chantal Thompson (cf. Thompson & Phillips, 2009). To avoid confusion with the more general interpretation of "pre-speaking" outlined above, the thesis will refer to this as "teacher-led planning" or Prelude to

¹ Since the term pre-speaking may be interpreted to mean any activity that prepares students for speaking, we are avoiding this term in favor of the alternative titles Prelude to Conversation and Thompson's teacher-led planning. I am grateful for Dr. Dan Dewey for bringing this potential confusion to our attention.

Conversation since even solitary planning is a form of “pre-speaking” preparation. Despite its inclusion in the teacher guide for *Mais Oui* (2009), Thompson’s approach to teacher-led planning has not yet been examined in previous research. In this pre-task planning type, teachers brainstorm with their students about both content, i.e., ideas, and form before students are asked to perform an oral production task (Thompson & Phillips, 2009). The purpose is to help students know what to talk about and how to say it when they perform the speaking task. Prelude to Conversation helps L2 learners to quickly activate and review what they have learned but does not present new concepts.

Since this type of teacher-led planning plays a key role in this thesis, it is critical to provide an example and description for the reader to understand how it differs from other teacher-led planning types. In the classroom, Prelude to Conversation can be applied in the following way: the students will read a prompt, and the teacher will then ask questions to generate ideas about the content while helping them focus on the grammatical structures necessary to express that content, thereby helping them perform the task. The ideas generated during this brainstorming are written on the board in one of two columns corresponding to “Content” and “Form”. As part of this process, the teacher anticipates the types of mistakes students are likely to make and therefore asks questions to guide students through a discussion of grammatical and lexical forms with the purpose of minimizing the number of mistakes learners will make. By organizing the notes into the two columns, students can easily refer to them as they are performing the task. However, it is critical to note that the teacher does not write down full sentences, both to prevent students from reading directly from what is on the board and to encourage them to elaborate upon the notes on the board to create something new with the language. The teacher can also provide a model for the students either orally or in written form,

that the students can follow on their own. However, the model is not available to the students when they are performing the task, to prevent copying.

To better explain the planning condition of Prelude to Conversation and illustrate the role of the teacher in this teacher-led planning, I provide an example below in which students prepare to describe their view of the perfect city.² The teacher would start by asking (in the target language) the following questions: “*What* is there in a city? Which buildings?” Several answers given by students would be written on the board such as below, e.g., *restaurant* ‘restaurant’, *pharmacie*, ‘pharmacy’, *école* ‘school’, *université* ‘university’ and as needed, rules concerning nouns, e.g., gender, plural forms, etc., would be reviewed interactively but without all the details and rules necessarily provided on the board under the “Form” column.

CONTENT	FORM
Qu’est-ce qu’il y a dans une ville ? Quels bâtiments ? ³	Restaurant, pharmacie, école, université,...

The teacher would then ask the students to describe the buildings. For instance: “What do they look like?” (*Détails sur les bâtiments : COMMENT sont-ils?* “Details about the buildings: HOW are they?”) The students would give sample adjectives, e.g., *beau* ‘nice’, *joli* ‘pretty’, *vieux* ‘old’, *nouveau* ‘new’, *mauvais* ‘bad’, *bon* ‘good’, and the teacher would once again write down a few of them on the board. At that time, the concept of adjectives, including endings associated with the different genders, e.g., *Différence si c’est masculin ou féminin* ‘difference if it is masculine or feminine’, and plural vs. singular, would be quickly reviewed and a reminder would be included on the board.

² The subjects of this study were actually asked to perform this task. The complete prompt and what I wrote on the board as part of the activity used for the Teacher-led Planning treatment are given in Appendix B.

³ Translation: “What are there in a city? Which buildings?”

CONTENT	FORM
Détails sur les bâtiments : COMMENT sont-ils?	beau, joli, vieux, nouveau, mauvais, bon, ... → Différence si c'est masculin ou féminin

Then the instructor would ask: “why are those buildings important?” to allow a review of verbs. Students would reply with different types of activities that could be done in those buildings, but what would be recorded on the board would simply be the infinitive, e.g., *travailler* ‘to work’, *manger* ‘to eat’, *voir un film* ‘to see a movie’, etc., requiring the students to produce the correct verb forms which would be modeled by the teacher, e.g., *We work in the bank*, *We eat in the restaurant*, etc.

CONTENT	FORM
Activités : POURQUOI est-ce que les bâtiments sont importants ?	Travailler, manger, voir un film, danser, lire, retrouver des copains, jouer (au tennis)

The teacher could finish by asking *where* those buildings are located (OU sont les bâtiments?), to refresh students’ memory about prepositions (*entre* ‘between’, *derrière* ‘behind’, *devant* ‘in front of’, *en face de* ‘across from’, *loin de* ‘far from’ and contractions, e.g., *de + le = DU* ‘of + the, masc.’

CONTENT	FORM
OU sont les bâtiments?	Entre, derrière, devant, en face de, loin de, ... → de + le = DU

By asking students the right questions, the teacher guides the brainstorming of the students, but what is key is that it is the students who are the ones giving the answers. This is possible because students are not introduced to new concepts during this type of teacher-led planning, but are only reviewing what they have previously learned. It is interesting to note that the teacher

starts by asking students about content and then leads them to think about form. When students refer to what is on the board as they are performing the task, they actually focus on the content more than the form. However, Prelude to Conversation helps them to activate both content and form, while helping anticipate potential errors to help students overcome those errors when they try to produce the correct forms of the content.

Although there are a variety of ways teachers can lead planning activities, I will draw on this approach when I discuss teacher-led planning or Prelude to Conversation.

Research Questions

The present study builds on this foundation by investigating the impact of three planning conditions, i.e., no planning, solitary planning, and Thompson's pre-speaking approach, on the speech of students of French 101, a first-semester university course. It will answer the following research questions:

1. What effect do different planning treatments have on the fluency of L2 learners' production in an oral task?
2. What effect do different planning treatments have on the complexity of L2 learners' production in an oral task?
3. What effect do different planning treatments have on the accuracy of L2 learners' production in an oral task?
4. What effect do different planning treatments have on the anxiety of L2 learners' production in an oral task?

Thesis Overview

The current thesis seeks to answer these questions. To do so, the thesis consists of five chapters. After this introduction, Chapter 2 lays the foundation for the thesis by presenting a

review of literature on both planning and anxiety. I then turn to Chapter 3 where I explain the research design of this study. Next, Chapter 4 presents the results of statistical analysis for the speech production recordings and survey results from the experiment. Finally in Chapter 5, I discuss these results in light of the research questions. The implications of the study, as well as the limitations and the suggestions for future research, will be presented. With this overview in mind, I now turn to the relevant literature for this study.

Chapter 2: Review of the Literature

In the last two decades, much research has been carried out on the task-based approach to language teaching (e.g. Ellis, 2003). As its name indicates, task-based instruction focuses the attention of students on the performance of specific tasks, and it allows them “to interact with others by using the target language as a means to an end” (Shrum & Glisan, 2010, p. 266). Teachers have noticed that different task characteristics (e.g. level of familiarity or amount of structure) impact specific aspects of performance. Similarly, performance is also impacted by task conditions, e.g. pre-task planning as well as post-task conditions (Skehan, 2003). Researchers such as Ellis (2009), Foster & Skehan (1996), Ortega (2005), or Wigglesworth (1997) have investigated the idea of task planning, that is, the preparation done by students so that they can perform a task. Research on the topic has much value because “unlike many other constructs in SLA, ‘planning’ lends itself to pedagogical manipulation” (Ellis, 2005, p. 1). It is because planning can be exploited differently by teachers that research needs to be pursued on the subject.

Anxiety is another topic of research that has been investigated in the last few decades. Anxiety, “characterized by the individual’s concern for himself or herself, excessive self-consciousness, and doubts regarding his or her self-esteem” (Argaman & Abu-Rabia, 2002, p. 144), affects each individual differently. It can have facilitating or debilitating effects (Scovel, 1991) and can be part of one’s personality, visible in traits such as perfectionism, lack of self-confidence and comparison to peers (Price, 1991). Foreign language classroom anxiety is a complex and multidimensional phenomenon. It affects each individual uniquely, yet its impact on the listening and speaking skills of the students is negative (Horwitz, Horwitz, and Cope, 1986).

This study will focus on the effects of Thompson's teacher-led planning or Prelude to Conversation, whose impact has never been measured before. It will also examine the impact of planning on anxiety, an important factor in language teaching and learning. To lay the groundwork for this thesis, I present in this chapter an overview of past literature and research on planning and anxiety. I begin by describing the existing approaches to planning as well as the new approach, the teacher-led planning which will specifically be examined in this study. Then, based on previous research, I will discuss the effect of planning on the fluency, complexity, and accuracy of the oral performance of students. The last part of the chapter will review the effects of anxiety in the foreign language classroom.

Approaches to Planning

Of the different types of planning investigated, two major types (complete with their sub-varieties) are particularly notable, namely on-line planning, also known as within-task planning (when planning takes place during the activity) and pre-task planning, as its name indicates, when planning takes place before the task is performed (Ellis, 2005). Pre-task planning itself is further sub-divided into rehearsal and strategic planning. Rehearsal planning consists of "providing learners with an opportunity to perform the task before the 'main performance'" (Ellis, 2005, p. 3). On the other hand, "strategic planning entails learners preparing to perform the task by considering the content they will need to encode and how to express this content" (Ellis, 2005, p. 3). Therefore, in this type of planning, students already know what task they will have to perform. Strategic planning can be achieved individually, in a group, or with the teacher. When done individually, it can be guided or unguided.

Teachers can manipulate the different types of planning, and researchers have tried to understand if each type of planning has a unique effect. Unfortunately, research on the topic has

had mixed results when explaining the outcomes of planning. The remainder of this section will explore the effects of strategic planning on students, evaluating the former research with the intent to explain the discrepancies and to develop a research design which will better evaluate the impact of planning. I now turn to a discussion on the effect of strategic planning of fluency, complexity, and accuracy.

Effects of Strategic Planning on Fluency, Complexity, and Accuracy

Each of the previous studies investigating pre-task or strategic planning evaluates the fluency, complexity, and accuracy of the language produced orally by students. “According to Skehan (1998), these three aspects of performance need to be distinguished because they are differentially affected by the particular type of processing a learner adopts” (Yuan & Ellis, 2003, p.2). Since the 1990s fluency, complexity and accuracy have therefore been used together as dependent variables in many L2 studies and has become a “multilayered, multifaceted, and multidimensional constructs” (Housen, Kuiken, & Vedder, 2012, p. 5). In this section I answer Yuan and Ellis’ challenge by attempting to distinguish these three aspects while also reporting on report on findings about the impact of strategic planning on fluency, complexity and accuracy.

Fluency

Skehan and Foster (1999) defined fluency as “the capacity to use language in real time, to emphasize meanings, possibly drawing on more lexicalized systems” (p. 96). Contrarily to accuracy and complexity, it is often associated with phonological phenomena. Researchers have investigated three dimensions of fluency: “speed fluency (rate and density of linguistic units produced), breakdown fluency (number, length and location of pauses), and repair fluency (false starts, misformulations, self-corrections and repetitions)” (Housen, Kuiken, & Vedder, 2012, p. 5).

Segalowitz (2007) explains that L2 learners cannot master their second language by simply knowing “phonology, vocabulary, syntax, semantics, pragmatics, sociolinguistic conventions, and sensitivity to cultural norms. The successful L2 user must also be able to implement that knowledge in an appropriately fluent manner” (p. 182). It is therefore the cognitive processing of the learners that needs to become fluent. Segalowitz (2007) clarifies that fluency has also been measured through the concept of access fluidity (“the process of connecting words and expressions to their meanings,” p. 182) or attention control (“the process by which a language user focuses and refocuses attention in real time as the message being communicated unfolds,” p. 182). With this in mind, I will now review several studies on planning and their results on fluency.

The effects of strategic planning on fluency

In her attempt to examine strategic planning, Ortega (1999) chose a story-retelling task supported by a visual stimulus of eight pictures and a listening passage telling the story of those pictures. She compared groups of advanced-level Spanish students, half of those students having been given ten minutes to plan the task and having been told they could use these ten minutes in any way they wanted, the other half having to retell the story immediately after hearing it and looking at the images Ortega recorded her subjects retelling the story. Evaluating fluency by measuring the speech rate (syllable per second) for the recordings, Ortega found that the subjects who had had time to plan spoke faster than the others.

The majority of other studies have likewise found a positive relationship between strategic planning and fluency. For instance, when Wendel (1997) asked his subjects to retell the story of two movies, he observed shorter pauses and more syllables produced per minute in the speech of the subjects who had ten minutes of unguided planning.

In their examination of the impact of task type on planning, Foster and Skehan (1996) had their subjects perform a series of tasks pertaining to three categories: personal information exchange, narrating, and decision-making. Task type was used as a moderator variable because the researchers believed planning impacts students' performance based on the type and complexity of the task. Therefore, subjects were assigned to one of two control groups (no planning) and two experimental groups (guided planning and unguided planning with ten minutes of planning⁴). Each group did the three tasks in a different order. Like Wendel (1997), Foster and Skehan found that both guided and unguided planning reduced the number of pauses and the amount of silence for the personal information and the decision making tasks. In the case of the narratives, they noted that guided planning had a greater impact on fluency than unguided planning.

In yet another study, Yuan and Ellis (2003) explored the differences between no planning, pre-task planning and on-line planning. They asked their subjects to orally narrate a story based on pictures. Those who were in the pre-task planning group were given ten minutes to plan. They were asked to write notes so that the researchers would know what students were doing during that time. Those under the no planning condition had to start the task immediately after seeing the pictures and had to complete the task within five minutes. However, those who were under the on-line planning condition had an unlimited time to narrate the story even though they were asked to perform the task immediately as well. In this study, fluency was determined through the measurement of syllables per minute, and the results showed that the most fluent group was the pre-task planning group. The no-planning group was more fluent than then on-line planning

⁴ The subjects in the guided planning condition were explicitly told to "consider the syntax, lexis, content, and organization of what they would say" (Foster & Skehan, 1996, p. 307), whether the other group was just told that they could plan for ten minutes.

group, which reformulated previous sentences the most and was also slower. Moreover, Yuan and Ellis conducted post-task interviews to better understand the use of planning time⁵.

In sum, as Ellis (2009) reported, it is a fair conclusion to write that “strategic planning can assist learners to speak more fluently and that this is evident in both the temporal and repair dimensions of fluency” (p. 493). Studies show that strategic planning has a positive impact on fluency (Ellis, 2009).

Complexity

In the field of second language acquisition, complexity is defined as “the capacity to use more advanced language, with the possibility that such language may not be controlled effectively” (Skehan & Foster, 1999, p. 96). Complexity “emphasizes the organization of what is said and draws attention to the progressively more elaborate language that may be used, as well as a greater variety of syntactic patterning” (Foster & Skehan, 1996, p. 303).

Housen, Kuiken and Vedder (2012) explain that complexity can be understood in two different manners: linguistic complexity and cognitive complexity. The last concept is related to the “relative difficulty with which language elements are processed during L2 performance and L2 learning, as determined in part by the learner’s individual backgrounds” (p. 4). On the other hand, linguistic complexity is not connected to the learner but to “the intrinsic formal or semantic-functional properties of L2 elements (e.g. forms, meanings, and form-meaning mappings) or to properties of (sub-)systems of L2 elements” (p. 4). Drawing on these more general principles of complexity, we can now consider how this applies to the concept of complexity within the context of planning.

⁵ They did not mention what was said by their subjects in their article, but their approach of interviewing subjects will be followed in this study.

The effects of strategic planning on complexity

In studies focused on the impact of planning on the performance of students, complexity is usually measured through the amount of subordination, e.g. by looking at the number of clauses per T-units⁶ (Mochizuki & Ortega, 2008; Sangarun, 2005, Yuan & Ellis, 2003), the number of relative clauses per T-unit (Mochizuki & Ortega, 2008), the number of words per T-units (Mochizuki & Ortega, 2008), or the number of clauses per c-unit⁷ (Skehan & Foster, 1997). It has also been measured through the number of words per utterance⁸ (Ortega, 1999) or the number of different verb forms (Yuan & Ellis, 2003)

Foster and Skehan (1996), whose research has already been discussed above, demonstrated that guided planning has a stronger effect than unguided planning (and then unguided planning on no planning) in terms of subordination. However, planning did not significantly impact structural variety.

Ortega (1999), whose study on planning has likewise been mentioned above, measured syntactic complexity by calculating the number of words per utterance while also examining lexical complexity by calculating the type-token ratio. Ortega explains that “type-token ratio was calculated following the simplest formula of number of different words (i.e., types) divided by the total number of words (i.e., tokens).” She concluded that subjects in her planning groups produced more complex utterances than the other groups. Nevertheless, no statistical difference was found between the type-token ratios of the planning and no planning groups.

In the study noted above by Yuan and Ellis (2003), syntactical complexity (through the ratio of clauses to T-units), syntactical variety (through the total number of different verb forms),

⁶ A T-unit is a main clause and its subordinate clauses

⁷ C-units are similar to T-units but, they include non-clausal structures.

⁸ Ortega defined a utterance as a sequence of speech “produced under a single intonation contour bounded by pauses” (definition cited in Ortega, 1999, p. 124, but originally given by Sato, 1988, p. 375)

and lexical variety (through a Mean Segmental Type-Token Ratio⁹) were evaluated. The authors concluded that pre-task planning had a positive effect on those three measures of complexity. In particular, the pre-task planning group outperformed the no planning group in its syntactical complexity and variety, and led to greater lexical variety (however, no statistical difference was found between pre-task planning and no planning).

It is noteworthy that all three of these studies measured complexity in different terms, which makes it difficult to directly compare their findings. Ellis (2009), who did a survey of the existing data on planning, reported that thirteen studies found a statistically significant impact of planning on grammatical complexity while conversely six studies found no effect. Moreover, four different studies did not find any impact on lexical complexity (Ortega, 1999, and Yuan & Ellis, 2003, being two of them).

The relationship between strategic planning and accuracy has also proven difficult to explain. As is the case for the impact of planning on complexity, findings linking planning and accuracy are likewise contradictory. With this in mind, I now turn to an overview of accuracy.

Accuracy

Accuracy is defined as “the ability to avoid error in performance, possibly reflecting higher levels of control in the language as well as a conservative orientation, that is, avoidance of challenging structures that might provoke error” (Skehan & Foster, 1999, p. 96). Accuracy also involves appropriateness and acceptability of the language produced by the L2 learner (Housen Kuiken & Vedder, 2012) because the language is compared to the norm established by native speakers. Researchers investigating the role of planning on accuracy have noted that some

⁹ “The participants’ narratives were divided into segments of 40 words and the type-token ratio of each segment calculated by dividing the total number of different words by the total number of words in the segment” (Yuan & Ellis, 2003, p. 13).

planning types have a greater impact on accuracy than others. I now turn to studies which have investigated accuracy in the context of planning.

The effects of strategic planning on accuracy

In studies focused on planning, accuracy is typically measured through the percentage of error-free clauses and utterances (Foster & Skehan, 1996; Sangarun, 2005; Yuan & Ellis, 2003). Other researchers also looked at the number of correct verb forms (Wendel, 1997, Yuan & Ellis, 2003) or the target language use of noun modifiers or target language use of articles (Ortega, 1999). The variable approaches to defining accuracy adds to the difficulty in pinning down the exact impact of planning on accuracy.

A further conundrum exists for accuracy. Despite the fervent focus on accuracy in the classroom, accuracy is actually the area for which there are the most mixed results in the research on planning. For instance, pre-task planning has been shown to have a weak but positive effect on accuracy in Yuan & Ellis's study (2003), and a positive effect on some grammatical structures but not others in Ortega's (1999) research. In her research, Ortega (1999) measured accuracy by specifically looking at the agreement of nouns and its modifiers, and at the use of articles, whereas Yuan and Ellis (2003) did not focus on specific grammatical principles, which is why their results differ from Ortega's (1999). Recall that Foster and Skehan (1996), who required their students to perform three types of tasks (as explained above) did not find any impact of planning on accuracy for the narrative task but a positive impact on the personal and decision-making task.

In light of the at times conflicting evidence for the impact of planning on accuracy, Ellis (2009) concludes that "overall, strategic planning appears to have a more consistent effect on

fluency than on either complexity or accuracy”. The contradictory results clearly show the need for more research on the topic.

The potential advantages of pre-speaking

Although Thompson’s teacher-led planning described in Chapter 1 has not yet been investigated, previous research on planning suggests that it may have a potential impact on speaking output produced by second language learners. For instance, Foster and Skehan (1999) designed a research experiment examining the focus of planning (i.e. focused on “content,” “language,” or not focused¹⁰) in each of the following condition for the source of planning (i.e. led by the teacher, done in group, done individually, or no planning). They found that the solitary planners were more fluent in their speech and creating more complex sentences. The teacher-led planners, on the other hand, were more accurate than their peers. The subjects who planned in group were the least fluent, and the ones who did not plan were lacking complexity. The researchers recognized that solitary planning is not communicative enough, mentioning Swain (1996) and suggesting that “collaboration can be productive” (Foster & Skehan 1999, p. 222). They also recognized that teacher-led planning “is likely to introduce a greater level of efficiency to all learners since it is the product of preparation on a teacher’s part, and a greater degree of organization” (Foster & Skehan, 1999, p. 223). Indeed, the two aspects they highlight, namely the collaboration of the students and the instructional planning by the teacher, are actually two characteristics of Thompson’s teacher led-planning for which a clear benefit has already been established.

Ortega (2005) is another scholar whose research may suggest a positive impact of Thompson’s teacher led-planning. Because most studies on planning have failed to include what language learners actually plan, Ortega (2005) made an effort to bridge the gap and through

¹⁰ Unfortunately, it is not clear what students did when the focus of planning was “no focus.”

numerous interviews focused on the cognitive processes of strategic planning, and found that students usually focus on form when they are given time to prepare an activity. It is therefore essential to help students plan for both content and form, both of which are foci of *Prelude to Conversation*.

The difficult balance between content and form has also been noted by Yuan and Ellis (2003). They state that “second language (L2) learners, especially those with limited proficiency, find it difficult to attend to meaning and form at the same time and thus have to make decisions about how to allocate their attention resources by prioritizing one aspect of language over others” (p. 1). The teacher-led planning highlighted in this thesis could then help teachers and students reach the balance between form and content that has been so hard to attain in the classroom.

Sangarun (2005) investigated the impact of planning both form and content, likewise drawing attention to the need for second language learners to strike the balance between both. In her study, she compared four strategic planning conditions: no planning, meaning-focused strategic planning (MP), form-focused strategic planning (FP), and meaning/form-focused strategic planning (MFP). In the last three conditions, the subjects had 15 minutes to prepare for an instruction task and an argumentative task. Those planning conditions were not led by a teacher, which makes MFP different from Thompson’s teacher-led planning. First, she found that MFP, MP, and FP were not significantly different in their influence on fluency, complexity, and accuracy. However, those three conditions promoted accuracy (MFP being the only condition affecting accuracy for the instruction task). In terms of complexity, MP influenced the instruction task whereas MFP influenced the argumentative task. Finally, all conditions impacted the fluency for the instruction task, but only FP did for the argumentative task. The different impact of planning based on the type of task, mentioned by Skehan (2003), is demonstrated

through those results. However, Sangarun concluded that students should try to plan both meaning and form because it leads to a “balanced quality of speech” (Sangarun, 2005, p. 132).

The four studies mentioned above demonstrate the importance of balancing both form, i.e., grammatical structures, organization, with content. In all of the studies, students appeared to benefit more when they were given the opportunity to plan, but without careful structure, it was easy to focus on either form or function at the expense of the other. Since Thompson’s teacher-led planning focuses on getting students to address both content and form, then the question remains as to whether, in practice, it provides advantages when compared with other strategic planning types. If proven to improve the fluency, complexity, and accuracy of students, this type of pre-speaking activity could benefit all teachers in helping them prepare their students for communicative tasks.

To this point I have outlined the benefits that strategic planning can have on linguistic output, i.e., what second language learners actually say. However, a learner’s production and output is not the only concern a teacher has. Many teachers employ such techniques with the purpose of helping create a learning environment that makes students more comfortable speaking. With this in mind, I turn to a discussion of anxiety in general, followed by a discussion of the potential impact of strategic planning on students’ anxiety during speaking tasks.

Anxiety in Second Language Acquisition and Speaking

Over the past 40 years, much research has been carried out on foreign language classroom anxiety. This research has found anxiety to have a powerful impact on the acquisition and production of second language learners. Horwitz, Horwitz and Cope (1986) explain that “in addition to all the usual concerns about oral communication, the foreign language class requires the student to communicate via a medium in which only limited facility is possessed” (p. 127).

Most interestingly, and most relevant for this study is the belief that anxiety has the greatest impact on a learner's speaking ability (Frantzen and Magnan, 2005; Horwitz et al., 1986). Anxiety can affect any individual, and it impacts most if not all language learners to some extent, especially in a classroom setting.

Krashen recognized this when he proposed the notion of an affective filter. As cited in Omaggio Hadley (2001), Krashen's theory (1982) explains that the affective filter is low "when the affective conditions are optimal: (1) the acquirer is motivated; (2) he has self-confidence and a good self-image; and (3) his level of anxiety is low. When learners are 'put on the defensive' [...], the affective filter is high, and comprehensible input cannot 'get in'" (p. 62). According to Krashen, language learners all have an affective filter. He argued that it was necessary for teachers to take actions to reduce the affective filter in order to enable students to continue language acquisition (1982, as cited in Omaggio Hadley, 2001). New approaches to teaching were developed in response to Krashen's findings, including Suggestopedia and the Natural Approach, which were meant to reduce the learner's anxiety and teachers were encouraged to minimize error correction and to let the students go through a "silent stage" until they were ready to speak (Omaggio-Hadley, 2001).

Research into the nature of anxiety in second language acquisition has proven that anxiety can be characteristic or situational. People who are affected by characteristic (or "trait") anxiety are people who are perfectionistic (Price, 1991) or who suffer from low self-confidence, especially when they compare themselves to others (Cheng, 2002). Anxiety is simply part of their personality. In contrast, situational anxiety depends on the environment surrounding people. Communication apprehension is an example of this kind of anxiety: nervousness affecting oral skills can happen on stage or in front of any type of audience.

The sources of anxiety are complex. Daly (1991) argued that communication apprehension can be developed for five reasons: genetic predisposition, personal history, learned helplessness, adaptation of first communication skills (how early an individual began to communicate) and acquired models of communication (if a person benefitted from a good model of communication from an early age, anxiety is less likely to be high). Foreign language students, Daly found, can be affected by characteristic anxiety, but when they are in the classroom, they can also be affected by situational anxiety. But even those students who did not suffer from trait anxiety nevertheless experienced various degrees of anxiety in the foreign language classroom.

Even though anxiety is often viewed negatively, anxiety can sometimes be positive. Scovel (1991) explains that facilitating anxiety “motivates the learner to ‘fight’ the new learning task; it gears the learner emotionally for approach behavior” (p. 22). On the other hand, debilitating anxiety “motivates the learner to ‘flee’ the new learning task; it stimulates the individual emotionally to adopt avoidance behavior” (Scovel, 1991, p. 22). If anxiety has many effects, it becomes necessary to understand which effects will take place in the foreign language classroom, and know how to balance facilitating and debilitating anxiety in order to achieve learning. Indeed, “when anxiety is too low, there is no motivation for making . . . efforts; but if anxiety is high it may paralyze the learner and the achievement level declines. Optimal anxiety, the right amount of anxiety, can lead to the best didactic achievements” (Argaman & Abu-Rabia, 2002, p. 146).

“Language anxiety has become the preferred term when discussing communication apprehension in the L2” (MacIntyre, Baker, Clément, Donovan, 2003, p. 140), but people do not only avoid communication because they are anxious. MacIntyre et al. (2003) explain that the willingness to communicate, that people can feel even when they are talking in their native

language, is another interesting construct closely linked to communication apprehension and perceived competence. Motivation is another construct that also facilitates communication in the L2. However, this study will focus on anxiety.

Having provided a brief overview of various types and sources of anxiety among our students, I will now turn my focus to a discussion of how researchers have measured anxiety in second language acquisition.

Measuring anxiety in second language acquisition

Horwitz, Horwitz and Cope (1986) believed that foreign language anxiety, a type of situational anxiety, was a “distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language process” (p. 128). To quantitatively determine this anxiety and its effects of foreign language classroom anxiety (FLCA) on students, they created a new instrument, the Foreign Language Classroom Anxiety Scale (FLCAS).

To make the FLCAS as reliable as possible, they organized several support groups for students taking foreign language classes at the University of Texas to better understand their L2-related anxieties. Taking into account difficulties and concerns about foreign language learning reported by students, Horwitz et al. constructed the FLCAS, a questionnaire of 33 questions measuring anxiety which assumes that FLCA is related to communication apprehension, test anxiety, and fear of negative evaluation. Many items on the FLCAS related to speaking and listening skills. They noted that low FLCAS scores were associated with higher grades, demonstrating a negative relationship between FLCA and students’ performance. Forty-nine percent of the students in the support group agreed that they started to “panic” when they had to speak in class. They admitted feeling “nervous and confused” when they had to participate, and

47% reported that they did not feel “confident” (p. 129). Others reported “freezing” in class when the teacher called on them.

Recognizing the reluctance of students to speak in the target language, Price (1991) conducted a series of interviews with foreign language learners to examine the notion of second language learning anxiety from a qualitative perspective. Her main goal was to understand what it is like to be anxious in a foreign language class. Price interviewed students who considered themselves affected by anxiety. She explained to them the nature of her study at the beginning of the hour-long interview conducted in English but she never made any allusion to the specific “speaking skill” in her questions. However, it is clear from the answers of the students that the greatest source of anxiety in the classroom was talking in the target language in front of their peers. The researcher reports that “they all spoke of their fears of being laughed at by the others, of making a fool of themselves in public. Several had painful memories of being ridiculed by other students”(105). This fear of public embarrassment is what causes foreign language students to be shy in the classroom even though they may not be shy outside of that environment.

Foreign language classroom anxiety is a reality in the lives of students, and it is therefore essential to find ways to reduce it. The following section introduces previous research on how to lower the affective filter of students in the L2 classroom.

Creating an anxiety-free classroom environment

As shown above, it is essential for teachers to create a classroom environment as comfortable as possible for the students to reduce that anxiety that precedes the performance of a task. First the goals set should be realistic and teachers should not expect too much from their students (Vogely, 1998). Students should not expect too much of themselves either. Teachers can

set clear objectives at the beginning of each class and remind the students that they need to be patient and diligent if they want to reach native-like proficiency level in their target language.

Not only do teachers need to set realistic goals, but they need to maintain a good attitude, first by refraining from being too critical when they answer questions in class, correct students, or grade. They also have to reward their students when they succeed because those personal successes are remembered by the learners and contribute to the decrease of their personal anxiety (Vogely, 1998). Instructors need to help students understand the importance and benefits of making mistakes (Frantzen & Magnan, 2005; Price, 1991). Price even insists that this subject should be talked about periodically in the classroom (1991).

Moreover, teachers influence the classroom by the way they act in class. They can make it a learning environment rather than a place where students perform in front of each other, which will help them to be more self-confident and to make quicker progress (Price, 1991). By the type of activities, the type of discipline they ask for, their error correction and their interaction with the students, instructors create a unique atmosphere that should be positive, non-threatening and supportive (Cheng, 2002; Vogely, 1998). They can help to build a sense of community in the classroom, the most important factor to help the students feel comfortable according to Frantzen and Magnan (2005). Humorous content and tactful corrections (Price, 1991; Horwitz et al., 1986) are also good strategies to help make people feel more comfortable.

By setting realistic goals for their students, maintaining a good attitude and creating a positive learning environment, teachers can help students lower the affective filter of their students. However, most of those findings were made twenty years ago, and even when applied, teachers know that their students still feel anxiety, showing the need for more research. If

strategic planning can have an impact on the performance of the students, one might wonder if it could also have an impact on the anxiety felt by students before they have to perform a task.

Learners' perception of planning and speaking anxiety

Pre-task planning is important from the point of view of the teachers in terms of class time management and the effects of planning on proficiency, but it is also important from the point of view of the students, who are affected by every type of task in the classroom. Ortega (2005) decided to give retrospective interviews to the subjects of her study. She asked them specifically about the strategies that they use during planning, and noticed that the subjects of her studies used affective strategies to lower their anxiety level (15% of the subjects) and encourage themselves to perform the task (23% of the subjects). However, other learners complained that pre-task planning added pressure to the performance, demonstrating the mixed effects of planning over anxiety. Ortega concluded that “it will be both feasible and profitable to address affective and social dimensions of task-based performance” (p. 108). Because anxiety and the speaking skill are so tied, it is essential to measure the effect of other types of planning, and more specifically Thompson's teacher-led planning, on the production of the students.

Research Questions

The research discussed in this chapter leads us to ask a number of questions. Consider for a moment that previous research on the impact of planning has produced somewhat mixed results (especially for complexity and accuracy) that are not necessarily easy to compare, maybe because of the different ways used to measure those variables, or because the planning conditions have not been fully described. Moreover, the description of Prelude to Conversation, a strategic planning never studied in the past but whose impact is promising, begs more research, as does Ortega's conclusion (2005). For these reasons, we pose the following questions:

1. What effect do different planning treatments have on the fluency of L2 learners' production in an oral task?
2. What effect do different planning treatments have on the complexity of L2 learners' production in an oral task?
3. What effect do different planning treatments have on the accuracy of L2 learners' production in an oral task?
4. What effect do different planning treatments have on the anxiety of L2 learners' production in an oral task?

It is expected that Prelude to Conversation, i.e. Thompson's teacher-led planning will have a positive impact on the fluency, complexity, and accuracy of the language produced by students. This pre-speaking approach should benefit students in terms of their fluency because this planning condition will have helped them organize their thoughts beforehand and review the important vocabulary and grammatical structures. They should therefore be quicker to find their words and make fewer pauses in their speech. Complexity should also be positively influenced by this teacher-led planning because this condition involves a teacher modeling the task for the students. Modeling should help them realize to which extent they can perform the task (making more elaborate sentences). Accuracy should also be better reached with this teacher-led planning method because the students are able to review grammatical structure before they perform the task and their mistakes should have been anticipated by the teacher. Finally, Thompson's Prelude to Conversation should help reduce the anxiety of the students the most because they should feel more prepared for the task with this condition in comparison to the others.

It is also predicted that anxiety will decrease with the teacher-led planning method examined in this thesis. The next chapter will provide an overview of the study conducted to answer the research questions listed above.

Chapter 3: Methodology

To address the research questions, I conducted the study outlined in this chapter. After explaining the three planning conditions, I will describe the subjects who participated in the experiment and I will detail the procedures, tasks, and instruments used to collect data. I will conclude by showing how the data were analyzed and what statistical tests were run.

Planning Conditions

As noted, three preparation conditions were operationalized as preparation for the speaking task subjects performed, namely no planning, Thompson's teacher-led planning, and solitary planning. For simplification purposes, the specific type of teacher-led planning which will be used in the study will refer to Thompson's approach to teacher-led planning as described in Chapter 1. As already noted, Thompson refers to this herself as "pre-speaking", but to avoid any potential confusion I will refer to this as my version of teacher-led planning since even solitary planning may be taken by the reader as a variety of pre-speaking activities because it too takes place prior to the speaking activity.

Although each of the three groups of subjects started with a different planning condition, they all cycled through the planning conditions in this order shown in Table 2 below. For two of the three conditions, i.e. no planning and solitary planning, I replicated how other researchers (i.e. Skehan & Foster, 1997; Menhert, 1998; Mochizuki & Ortega, 2008) had implemented these conditions in their studies to permit a better comparison of the results with different studies on planning. I now discuss each of the treatments in the order of the cycle through which subjects experienced the treatments.

For the no planning condition, subjects were required to speak immediately after reading the prompt for the task. This approach was done similarly by other researchers such as Ortega (1999) or Yuan and Ellis (2003), who gave no time to their subjects to prepare for the task.

For the teacher-led planning treatment, subjects read the prompt before I led them to think about the content and forms necessary in order to accomplish the task. For about five minutes, we followed the method outlined in Chapter 1 for Thompson's teacher-led planning or Prelude to Conversation. We began by brainstorming as a group about different ideas the subjects could use to answer the prompt for the speaking task, and then we brainstormed about how to express those ideas through vocabulary, structures and connectors that they already knew. Notes were written on the board in two columns, one for content and one for form and subjects were able to refer to them as they were recording their speaking task. To ensure that each group experiencing pre-speaking received a similar treatment, I printed my notes (c.f. Appendix B) and made a conscious effort to lead the groups in the same way each week and in all sessions in a given week, writing the same information on the board wherever possible.

The solitary planning condition was similar to the treatments used in other studies by, e.g., Ortega, 1999 and Sangarun, 2005. Subjects read the prompt and were then given up to 5 minutes (to match the teacher-led planning condition) to think about what they would say. They were given a blank sheet of paper to take notes if they wanted to. However, they were told that they could not write down full sentences and that the paper would be taken away from them before they would start the task¹¹. The treatment was considered unguided because the subjects were not given any hints about what to plan (i.e. content and/or form). In other studies, e.g. Crookes (1989), Foster and Skehan (1996), Ortega (1999), and Yuan and Ellis (2003), subjects had ten

¹¹ Notes were collected before the speaking task to ensure subjects were speaking rather than reading their notes during the speaking task.

minutes to plan for the task they were given. Mehnert (1998), who specifically studied the impact of planning time on production, concluded that more planning led to an overall better performance but that the impact of time differed for each of the areas of performance (fluency, complexity, and accuracy). However, in the current study, to better answer the research questions and compare different planning types as equally as possible, subjects were given the same amount of time to prepare in the teacher-led and solitary planning conditions.

Subjects

To answer the research questions, the subjects who participated in this experiment were assigned to one of three groups. The subjects of this study were 37 students of French 101 (17 males, 20 females), a first-semester university course taught at Brigham Young University, a mid-sized, private university. The undergraduates' level of proficiency ranged from Novice Mid to Novice High according to *ACTFL Guidelines* when the experiment took place about half-way through the semester.¹² Their ages varied from 18 to 25 (average=21.5) and they were all native speakers of North American English¹³. Subjects were recruited from the five French 101 sections offered by the Brigham Young University French department. As a departmental policy, students enrolled in French 101 were required to speak outside of class with a partner to complete a weekly speaking assignment. For the purpose of this research, students were told they would receive credit toward their weekly speaking assignment for participating in the study. Subjects were able to sign up for a weekly session at the same time and on the same day of the week for three weeks in a row to facilitate participation.

Originally, it was planned that three sessions would be organized per week (one per treatment type). However, because of low turnout, it was decided that more students needed to be

¹² This estimate is based on visits by the departmental supervisor who is an official ACTFL OPI rater and trainer.

¹³ Except one subject who was Canadian, all were American.

recruited to increase the size of the groups. This was done by offering multiple sessions for each treatment each week and restarting the experiment¹⁴. Subjects signed up for a session, and the researcher assigned all the sessions to one of three groups to equalize the number of subjects across the groups. When they came to their session, students were told which group they belonged to, and for the following two weeks, they could sign up for one of the six possible time slots for their group. In total there were thus 3 treatment groups x 6 possible time slots/group for a total of 18 sessions a week.

Even though the groups were initially of equal size, group size was impacted by attrition and technical difficulties. Fifty-three students originally began the study but fourteen subjects had to be excluded from the research because they did not attend all three treatment types, and two subjects were dismissed because their native language was not English. At first, it was decided that only subjects who went through the three planning types would be kept in the study. Upon starting data analysis, technical problems were discovered: the software used to record the subjects' speaking tasks, NetRecorder¹⁵, had created a number of unusable recordings. Removing data from all the subjects affected would have greatly diminished the number because many subjects had lost just one recording. Thus, the statistical tests that were run for the analysis were chosen because they permitted inclusion of the missing data.¹⁶ The following table details the final size of the three groups in which students were assigned.

¹⁴ The task used for the first week was re-used for the restart of the experiment. Subjects who had participated in the original first week were asked to skip one week and come back for tasks/weeks two and three.

¹⁵ NetRecorder is part of the Learning Web application designed by Devin Asay.

¹⁶ After the data had already been analyzed and prepared for statistical analysis, Dr. Dennis Eggett, the statistician who ran the statistical tests explained that it would have been possible to use the data of those subjects whose recordings were erased. Unfortunately, due to time constraints and the fact that these subjects had not completed the final survey regarding preferences for different treatment types, these data were not added back in for analysis for the current thesis. These data will be included in the future for publication and presentation.

Table 1*Group sizes*

Groups	Subjects with 3 recordings	Subjects with 1 or 2 recordings	Total Number of Subjects
Group A	9 (M=5, F=4)	4 (M=3, F=1)	13 (M=8, F=5)
Group B	9 (M=1, F=8)	4 (M=3, F=1)	13 (M=4, F=9)
Group C	7 (M=2, F=5)	4 (M=3, F=1)	11 (M=5, F=6)
Total	25 (M=8, F=17)	12 (M=9, F=3)	37 (M=17, F=20)

As illustrated in Table 1, three recordings were available for 25 subjects and one or two recordings were available for 12 subjects. Nevertheless, the unequal number of complete recordings, i.e. the missing recordings, was taken into account when the statistical tests were run to allow for each of the 37 subjects to be used in the study (see section on data analysis).

Speaking Tasks and Rotation Cycle

As already noted, three types of preparation, or lack thereof, were compared: no planning, teacher-led planning, and unguided solitary planning. Each of the three groups experienced a new treatment each week in preparation for the speaking task (see below), beginning the treatment cycle in a different place according to the following schedule:

Table 2*Rotation Cycle*

	Group A	Group B	Group C
Week 1 (Task 1)	No planning	Teacher-led planning	Solitary planning
Week 2 (Task 2)	Teacher-led planning	Solitary planning	No planning
Week 3 (Task 3)	Solitary planning	No planning	Teacher-led planning

For instance, during Week 1, subjects all had the same prompt for their speaking task, i.e., Task 1, but their preparation for the task was different: Group A did not have any planning time, Group B was led through teacher-led planning, and Group C had five minutes to plan individually. Subjects experienced each treatment in the same order: no planning was always followed by teacher-led planning, which always preceded solitary planning which was in turn followed by no planning (for Groups B and C).

This rotation of the treatments over three weeks was meant to decrease the number of threats to internal validity. Because subjects were spending five hours in their French class every week as well as studying presumably for at least the same amount of time every week, it was expected that their level of proficiency would increase during the three weeks of the experiment. The maturation of the subjects was seen as a confounding factor because of the expected improvement of the subjects' French language skills as well as an increased familiarity with the experiment. Moreover, being recorded on a computer might have made the subjects more nervous during the first week completing the speaking task in comparison to the third time, thus potentially impacting anxiety, an important focus of this study. For those reasons, subjects cycled through each of the different treatments to offset this potential problem.

As a concluding point, it is critical to emphasize that all subjects performed the same task every week (see Appendix A) regardless of the treatment they underwent that week. The tasks were as follows:

Table 3

Weekly Tasks

Week	Task
Week 1	Describe the perfect city.
Week 2	Explain your weekly schedule
Week 3	Describe the French school system

Although these tasks were created for the purpose of this study, they were based on the materials studied in the subjects' French 101 class during the week when they had to perform each task.

Measure of Anxiety

To answer the fourth research question regarding the impact of different planning treatments on anxiety, subjects were asked to complete surveys at the beginning and end of the session each week. Those two surveys were based on the Foreign Language Anxiety Scale developed by Horwitz, Horwitz and Cope (1986). The pre-task survey (Appendix C) consisted of ten questions, with the most important question asking them to rate their anxiety on a 10-point Likert scale from 1 (low anxiety) to 10 (high anxiety) as they were about to start the session. The post-task survey included the same questions but also required subjects to rate their anxiety during the task as well as after the task when they were finished. The survey also required them to rate the difficulty of the task they had just performed on a 5-point Likert scale. For the purposes of this thesis, only questions 7 from the pre-test and 13 from the post-test were analyzed. These questions asked specifically about the subjects' anxiety regarding the tasks they were asked to complete as part of the study.

Procedure

The subjects signed a consent form to participate in the study a few weeks before the beginning of the experiment during classroom visits when subjects were initially recruited and offered this opportunity to complete their weekly speaking assignment. When they came to the sessions, the procedure was as follow:

Table 4

Procedure

Session	Activities
No Planning Session	<ol style="list-style-type: none">1. Pre-task anxiety survey via Qualtrics2. Presentation of the task3. Completion of the task without planning time using LearningWeb4. Post-task anxiety survey via Qualtrics
Teacher-led Planning and Solitary Planning Sessions	<ol style="list-style-type: none">1. Pre-task anxiety survey via Qualtrics2. Presentation of the task3. Planning for five minutes4. Completion of the task using LearningWeb5. Post-task anxiety survey via Qualtrics
Additional Activity for the Last Session	<ol style="list-style-type: none">1. Post-study survey via Qualtrics

At the beginning of each session, the subjects completed the pre-task anxiety survey, administered online via Qualtrics. Upon the completion of the survey, the researcher administered the treatment as explained above. Students were then recorded on a computer via the program NetRecorder. When they finished the task, they completed the post-task anxiety survey on Qualtrics.

At the end of the third session, all subjects also took another survey, referred to below as the post-study survey, used for qualitative purposes. Subjects were asked which treatment they preferred and why they preferred it. They next were asked to describe which planning type they thought most helped them increase their fluency, complexity and accuracy, as well as which

planning type most reduced their anxiety level. This survey was also administered through Qualtrics.

Data Coding and Scoring

The data collected using the procedures outlined above were quantified in a number of ways in preparation for statistical analysis. For ease of explanation, I have included Table 5 matching each research question with the measure used to answer the question. A short summary follows:

Table 5

Analysis of the Data

Research Question	What is being analyzed
RQ1: Speech fluency	* duration in seconds * number of words/minute (used by Guar-Tavares, 2008, and Mochizuki & Ortega, 2008) * number of pauses/minute (used by Tajima, 2003; similar to measure used by Foster, 1996, Foster & Skehan, 1997, and Mehnert, 1998, who calculated the total number of pauses)
RQ2: Speech complexity	* length of utterances
RQ3: Speech accuracy	* percentage of errors (used by Bygate, 1996; similar to measure used by Mehnert, 1998, Sangarun, 2005, Tajima,2003, and Yuan & Ellis,2003, who calculated the number of error-free clauses) * errors per minute
RQ4: Change in Anxiety	* difference in anxiety between before and during the task

As Table 5 illustrates, most of the factors, i.e., dependent variables, analyzed were drawn from previous literature with the exception of duration in seconds, length of utterances, or error per minute¹⁷.

Speech fluency was measured by the duration in seconds, the number of words per minute, and the number of pauses per minute. Speech complexity was measured by the length of

¹⁷ These were used due to the difficulty to assess the speech samples of such novice speakers for lack of better measures.

utterance calculated through the number of words subjects produced. As most of them were novice-mid, their sentences were sometimes created while they were transcribed. Accuracy errors were analyzed in terms of the total number of errors, the percentage of errors (number of errors/total number of words), and the number of errors per minute in terms of all errors combined as well as based on error type, e.g., vocabulary and pronunciation.

As for anxiety, only a subset of the questions from the entire questionnaire was examined since the majority of questions pertained to general language learning anxiety rather than task specific anxiety. In particular, anxiety was measured by looking at the difference between the pre-task anxiety (question 7 in the pre-task anxiety survey) and the anxiety during the task¹⁸ (question 13 in the post-task anxiety survey).

Data Analysis

The variables mentioned above in Table 5 served as the dependent variables. Using the statistical software SAS, a mixed model analysis was completed so that data from all subjects could be used, whether their recordings were available for one, two, or the three tasks. An initial Mixed Model Analysis was first run to determine which variables were impacting the various results outlined in Table 5 above. These variables were used in the remaining analysis if their p -value was less than 0.15 ($p < 0.15$). A subsequent Mixed Model Analysis was then run using only the remaining covariates as well as treatment (Treatment 1 being no planning, Treatment 2 being teacher-led planning, and Treatment 3 being solitary planning). Because of multiple comparisons, a more restrictive p -value was used to determine significance, namely $p < .01$.

With this in mind, I now present the results of this statistical analysis in Chapter 4.

¹⁸ It was hypothesized that the impact of planning would be stronger if the anxiety felt during the performance of the task, rather than after the task, was analyzed.

Chapter 4: Results

The first part of this chapter will present the results of the Mixed Model Analysis. These results will be organized to answer the research questions in the following order: the effects of planning on fluency, on complexity, on accuracy, and on anxiety. The second part of the chapter will give the results of the qualitative analysis of the post-study survey that the subjects took at the end of the last session of the experiment.

Production Task Results

An initial analysis was conducted using a full Mixed Model Analysis to determine which variables should be retained as covariates. Removing variables which did not have a potentially significant impact decreased the number of comparisons being examined by the analysis, at any given time increasing the likelihood of findings that were actually significant rather than running every possible comparison and finding nothing. If p -values exceeded 0.15, the variables were not used as covariates in the subsequent analysis. The results presented below are based on the reduced Mixed Model Analysis run on the data after the non-significant covariates had been removed from the analysis, which focused on whether the planning condition, task, group size, or any other variable impacted the production of the subjects. A p -value of .01 or less was used to determine significance, and a listing of the statistical analysis is found in the Appendix F. In what follows, Standard Errors are reported rather than Standard Deviations since they are more accurate for comparing means as per the statistical model used to analyze the data below.

The effects of planning on fluency

In this study, speech fluency was measured in three different ways: duration of the total speech sample in seconds, number of words per minute, and number of pauses per minute.

Duration

The first measure, duration of the total speech sample in seconds, was employed to consider if planning conditions had an impact on the length of L2 learners' speech production, i.e., their recordings. The Mixed Model Analysis revealed a significant effect of task on duration of the utterances of the subjects ($F(2, 53)=5.77, p=.0054$) where subjects' productions during the speaking tasks averaged 170.4 seconds for the first task (SE=13.92), 218.5 seconds for the second task (SE=15.27), and 186.1 seconds for the third task (SE=15.13). Tukey-Kramer post-hoc tests revealed a significant difference between Task 1 and Task 2 ($t_{53}=-3.37, p=.0040$) with a difference of 48.1 seconds¹⁹ (SE=14.27). No significant effect was found for treatment, namely the planning condition, although the results were approaching significance ($F(2, 53)=4.14, p=.0213$).

Words per minute

The fluency of subjects was measured by means of the number of words produced per minute. Both task ($F(2, 53)=11.68, p<.0001$) and planning type ($F(2, 53)=6.39, p=.0033$) were found to have a significant impact on the number of words produced per minute. In terms of task, subjects produced the least number of words for Task 1 (35.4 words/minute; SE=2.40) in comparison to Task 2 (42 words/minute; SE=2.50) or Task 3 (41.2 words/minute; SE=2.50). The post-hoc tests demonstrated a significant difference between Task 1 and Task 2 ($t_{53}=-4.33, p=.0002$) and between Task 1 and Task 3 ($t_{53}=-3.87, p=.0009$). The difference between Task 1 and Task 2 was 6.6 words/minute (SE=1.52), and the difference between Task 1 and Task 3 was 5.8 words/minute (SE=1.51). For treatment, subjects produced the most words/minute with Treatment 2, namely teacher-led planning (42.5 words/minute; SE=2.48) as opposed to

¹⁹ Differences reported in the results for post-hoc tests come from the Estimates reported for Differences of Least Squares Means via SAS.

Treatment 1, i.e., no planning (37.2 words/minute; SE=2.46) or Treatment 3, i.e., solitary planning (38.9 words/minute; SE=2.44). Tukey-Kramer tests revealed a significant difference only between no planning and teacher-led planning ($t_{53}=-3.52, p=.0026$) with a difference of 5.3 words/minute (SE=1.51). Post hoc tests also revealed a suggestive difference of 3.6 words/minute (SE=1.57) between teacher-led planning and solitary planning ($t_{53}=-2.3, p=.0659$).

Pauses per minute

The last measure of fluency used in this study was the number of pauses per minute. The analysis demonstrated that both task ($F(2, 53)=72.27, p<.0001$) and treatment ($F(2, 53)=6.78, p=.0024$) influenced the number of pauses per minute. Within the context of tasks, subjects made fewer pauses per minute in Task 1 (5.2; SE=0.34), followed by Task 2 (9.4; SE=0.39) and Task 3 (10.8; SE=0.93). The Tukey-Kramer tests proved that Task 1 was significantly different from Task 2 ($t_{53}=-8.37, p<.0001$) and Task 3 ($t_{53}=-11.40, p<.0001$). The difference between Task 1 and Task 2 was 4.2 pauses/minute (SE=0.50), and between Task 1 and Task 3 was 5.6 pauses/minute (SE=0.49). However, Task 2 and Task 3 were not found significantly different ($t_{53}=-2.72, p=.0236$). Within the context of planning conditions, students made fewer pauses in Treatment 2, namely teacher-led planning (7.34; SE=0.38), followed by Treatment 1, i.e., no planning (8.9; SE=0.37) and Treatment 3, i.e., solitary planning (9.1; SE=0.37). The Tukey-Kramer tests proved that teacher-led planning was significantly different from no planning ($t_{53}=2.93, p=.0135$), with a difference of 1.5 pauses/minute (SE=0.51) and from solitary planning ($t_{53}=-3.42, p=.0034$), with a difference of 1.7 pauses/minute (SE=0.51). On the contrary, no planning and solitary planning were not significantly different ($t_{53}=-0.50, p=.8729$).

The effects of planning on complexity

In this study, complexity was measured by means of the length of utterances (average number of words per sentence), and the analysis proved that treatment had a significant impact ($F(2, 55)=5.51, p=.0066$). Teacher-led planning helped subjects produce on average two more words per utterances than the other two conditions: the L2 learners produced 13.3 words/utterances; $SE=0.60$). Solitary planning conditions led the subjects to produce 11.4 words per utterances ($SE=0.58$). The effect of no planning was the same: 11.4 words per utterance ($SE=0.59$). Tukey-Kramer post hoc tests revealed that teacher-led planning was significantly different from no planning (difference of 1.9 words, $SE=0.68; t_{55}=-2.91, p=.0140$) and it was significantly different from solitary planning by 1.9 words as well ($SE=0.68; t_{55}= 2.85, p=.0168$). However, no planning and solitary planning did not have a different impact on the length of utterances produced by the subjects ($t_{55}=-0.02, p=.9998$).

The effects of planning on accuracy

The Mixed Model Analysis for percentage of errors for the total number of words as well as errors per minute both showed that treatment was the only variable to affect the accuracy of students ($F(2, 52)=7.00, p=.0020$).

The percentage of both the errors for the total number of words and the errors per minute was the lowest (10.7%; $SE=0.91$) for Treatment 2, namely teacher-led planning. The next lowest percentage of errors was for Treatment 1, i.e., no planning (13.2%; $SE=0.88$), followed by 14% ($SE=0.87$) for Treatment 3, i.e., solitary planning. Results of Tukey-Kramer post hoc tests showed a significant difference between teacher-led planning and solitary planning of 3.4 % ($SE=0.94; t_{52}= -3.59, p=.0021$). The difference between teacher-led planning and no planning

approached statistical significance ($t_{52}=2.80, p=.0195$). It is interesting to note that no significant difference was found between no planning and solitary planning ($t_{52}=0.86, p=.667$).

The effects of planning on anxiety

Anxiety was measured as the increase in anxiety between the pre-task anxiety survey²⁰ and the anxiety felt during the performance of the task, as rated in a question of the post-task anxiety survey. The reduced Mixed Model Analysis demonstrated that pre-task anxiety strongly influenced the anxiety felt by the subjects during the task ($F(1, 52)=18.59, p<.0001$), and that task also affected that anxiety ($F(2, 52)=8.68, p=.0006$) Subjects experienced an increase in anxiety of 1.13 point (on a scale from 1 to 10) for Task 1 and an increase of .65 points for Task 3. Nevertheless, they experienced a decrease in anxiety during Task 2 (by .21 points).

Summary of results

To conclude this section of the chapter, Table 6 summarizes which variables had an impact on the fluency, complexity, accuracy, and anxiety of the L2 learners, reporting results of the Tukey-Kramer post-hoc tests.

²⁰ Subjects rated their anxiety even before seeing the prompt of the task.

Table 6*Summary*

Variable	What is significant	Estimated differences	Post hoc significance ²¹
Duration	Task ($p=0.0054$) **Planning Condition ($p=.0213$)	Task 1-Task 2: -48.1 (SE=14.27) Task 1-Task 3: -15.7 (SE= 14.08) Task 2-Task 3: 32.4 (SE= 14.96) No Pl-T-led Pl: -40.9 (SE= 14.22) No Pl-Sol Pl: -18.6 (SE= 14.34) T-led-Sol Pl: 22.3 (SE= 14.56)	Task 1 \neq Task 2: $p=.0040$ Task 1 \neq Task 3: $p=.5092$ Task 2 \neq Task 3: $p=.0868$ No Pl \neq T-led Pl: $p=.0157$ No Pl \neq Sol Pl: $p=.4034$ T-led Pl \neq Sol Pl: $p=.2843$
Words per Minute	Task ($p<.0001$) Planning Condition ($p=.0033$)	Task 1-Task 2: -6.6 (SE=1.53) Task 1-Task 3: -5.8 (SE= 1.51) Task 2-Task 3: 0.8 (SE= 1.59) No Pl-T-led Pl: -5.3 (SE= 1.51) No Pl-Sol Pl: -1.7 (SE= 1.54) T-led-Sol Pl: 3.6 (SE= 1.56)	Task 1 \neq Task 2: $p=.0002$ Task 1 \neq Task 3: $p=.0009$ Task 2 \neq Task 3: $p=.8736$ No Pl \neq T-led Pl: $p=.0026$ No Pl \neq Sol Pl: $p=.5061$ T-led Pl \neq Sol Pl: $p=.0659$
Pauses per Minute	Task ($p<.0001$) Planning Condition ($p=.0024$)	Task 1-Task 2: -4.2 (SE=0.50) Task 1-Task 3: -5.6 (SE= 0.49) Task 2-Task 3: -1.4 (SE= 0.53) No Pl-T-led Pl: 1.5 (SE= 0.51) No Pl-Sol Pl: -0.2 (SE= 0.50) T-led-Sol Pl: -1.7 (SE= 0.51)	Task 1 \neq Task 2: $p=<.0001$ Task 1 \neq Task 3: $p=<.0001$ Task 2 \neq Task 3: $p=.0236$ No Pl \neq T-led Pl: $p=.0135$ No Pl \neq Sol Pl: $p=.8729$ T-led Pl \neq Sol Pl: $p=.0034$
Length of Sentences	Planning Condition ($p=.0066$)	No Pl-T-led Pl: -1.9 (SE= 0.67) No Pl-Sol Pl: -0.1(SE= 0.67) T-led-Sol Pl: 1.9 (SE= 0.68)	No Pl \neq T-led Pl: $p=.0140$ No Pl \neq Sol Pl: $p=.9998$ T-led Pl \neq Sol Pl: $p=.0168$
Percentage of Errors	Planning Condition ($p=.0020$)	No Pl-T-led Pl: 2.6 (SE= 0.92) No Pl-Sol Pl: -0.8 (SE= 0.90) T-led-Sol Pl: -3.6 (SE= 0.94)	No Pl \neq T-led Pl: $p=.0195$ No Pl \neq Sol Pl: $p=.667$ T-led Pl \neq Sol Pl: $p=.0021$
Anxiety	Pre-task Anxiety ($p<.0001$) Task ($p=.0006$)		n/a

The symbol ' \neq ' denotes that there is a significant difference between the two categories.

** Approaching Significance

²¹ P -values are adjusted p -values from the Tukey-Kramer post hoc analyses.

Planning had an impact on two of the three measures of fluency, as well as on all the measures for complexity and accuracy. However, it did not affect the anxiety of the subjects. The tasks influenced the three measures of fluency as well as the anxiety of the students. The increase in anxiety was also based on the pre-task anxiety felt by the participants.

Post-Study Survey of Preferences

The following section introduces the results of the post-survey, taken at the end of the third session, in which the subjects gave open-ended answers about their preferences between the three treatments for speaking in general, for fluency, for complexity, for accuracy, and for reducing anxiety. Teacher-led planning did tend to yield better results in terms of fluency, complexity, and accuracy, whether reaching statistical significance as is primarily the case, or approaching statistical significance in the event that it did not reach it. In short, teacher-led planning tended to result in better output when compared against the other two treatments. That said, did subjects necessarily prefer that approach preparing for their speech task? This post-study survey allowed us to get a sense of what students prefer in preparing for the oral productions regardless of what treatment types were better at helping them produce higher quality output. The answers which indicated preference for two treatments were not taken into consideration in this analysis.

Table 7*Preferences of Subjects²²*

	No planning	Teacher-led planning	Solitary planning
General Preferences	5 (12%)	30 (73%)	6 (15%)
Preferences for Fluency	6 (16%)	24 (65%)	7 (19%)
Preferences for Complexity	2 (5%)	22 (56%)	15 (39%)
Preferences for Accuracy	2 (6%)	27 (77%)	6 (17%)
Preferences for (less) Anxiety	6 (29%)	12 (57%)	3 (14%)

General preferences

Seventy-three percent of the subjects acknowledged that teacher-led planning was their favorite planning condition. Of the twenty participants who indicated this preference, a third mentioned that teacher-led planning boosted their confidence before the task, and, more importantly, half of those 20 participants recognized the positive impact of teacher-led planning on their ability to brainstorm content and form: “I prefer planning led by a teacher because I feel like they know more than I do and they can help me prepare better than I can help myself.” Teacher-led planning also helped the subjects having “a better feel for what the prompt was asking.”

About 15% of the participants preferred the solitary planning condition. One mentioned being more comfortable because the individual preparation led to fewer questions (that could have risen during a collective preparation for the task to perform). Another subject wrote that time was better used individually because they could focus on their own weaknesses.

²² This analysis of the post-study survey includes the answers from all the participants who completed the three sessions of the study, even those who were previously eliminated because English was not their native language or because their recordings had problems. Because they experienced each treatment, they were aware of the differences and of their preferences for the various planning conditions. Their answers were therefore kept in the study to strengthen the analysis.

The rest of the subjects (12%) reported preferring the no planning condition. One participant interestingly justified this choice because “most of [his] language skill comes from knowledge [he] has mastered to the point of not having to consciously think about it. If [he tries] to study information and keep it in [his] short term memory, [he] usually end[s] up trying too hard to recall that information and make[s] more grammatical mistakes.” More importantly, several participants mentioned that no planning prevented them from worrying before performing the task.

Preferences for fluency

Teacher-led planning was again the preferred planning type (65%) of the subjects. Several reported its influence on the pronunciation, the brainstorming of vocabulary, and the organization of their speech. One subject reported the importance of hearing French before performing the task: “If all my interactions/thoughts are in English before the activity, it is a lot harder to express myself in French.”

Solitary planning was the second preferred option (19%). Several subjects wrote that they liked planning out every sentence they were going to express during the task. No planning was the least favored option (16%), and numerous participants mentioned that this condition helped them perform at their own level.

Preferences for complexity

When asked regarding which treatment type facilitated greater complexity, 56% of the subjects again indicated a preference for teacher-led planning. One participant explained that this condition helped with “elaborating rather than just trying to say a couple phrases that came to mind.” Other subjects wrote that they liked referring to the board where sentence structures were

written down. Some participants also reported that the model given by the teacher helped them to create more complex sentences on their own.

Solitary planning was more favored (39%) in preparing subjects for fluency, accuracy, and anxiety, mainly because students thought that they could use the individual time to plan out their sentences. Only five percent of the subjects liked the no planning condition the most.

Preferences for accuracy

When accuracy was the focus, 77% of subjects preferred teacher-led planning. Students indicated the advantage of not “waiting wondering what [they] should talk about” because the teacher helped them know “what to say and how to say things.” They discussed the fact that they liked how the teacher had anticipated their mistakes before they happened. One student even wrote about being able to “bring ideas to the table and the teacher could confirm them or tweak them to be correct,” meaning that some students use teacher-led planning as a way to get direct feedback from the teacher before they even perform a task.

Solitary planning was seen as the most advantageous by a mere 17% of the participants, because they could think “about things that [they] knew how to say correctly and not trying to say things [they were] not sure about.” No planning was preferred by six percent of the subjects, and several of them mentioned that they liked having no time to prepare because they did not worry and “stumble over things.”

Preferences for reducing anxiety

Even though teacher-led planning (57%) was preferred over both no planning (29%) and solitary planning (14%), it is difficult to analyze the responses about which planning type best reduces anxiety. First, many students did not actually answer the question but explained why they felt (or why they did not feel) anxious instead. Moreover, where there were responses, they

were inconsistent. For instance, no planning was mentioned both as the best way and the worst way to decrease the amount of stress. Teacher-led planning increased the confidence of several students according to their responses, while creating stress in others because it made them realize their own weaknesses. As for solitary planning, it was considered too long for several students who just wanted to start performing instead of worrying because they had no feedback at all, whereas others liked the fact that they could quietly focus on what they specifically wanted to feel less nervous.

Post-study survey summary

Teacher-led planning was consistently the preferred planning type of the subjects of this study, followed by solitary planning and no planning. However, it seems that personal characteristics might influence those preferences because of the discrepancy of the answers given by the participants.

Conclusion

We have seen the results of both the speaking tasks and the post-survey results and the impact that task and planning type had on the fluency, complexity, accuracy and anxiety, as well as their impact on student preferences. Based on these results we are now able to answer the research questions. The results presented in this chapter will now be further discussed in Chapter 5.

Chapter 5: Discussion

Having reviewed the results in Chapter 4, we are now able to discuss the results of the study in terms of the research questions and larger implications. To this end, I will begin this chapter by answering the research questions guiding this thesis in light of the findings of the study. Next I will outline the broader implications and additional findings that arose from the study, before turning to a discussion of the limitations and future research that can be conducted to follow up on the issues raised. I now turn to the discussion of the research questions in the order in which they were asked.

Discussion of Research Questions

RQ1: What effect do different planning treatments have on the fluency of L2 learners' production in an oral task?

Recall from Chapter 3 that RQ1 was seeking to discover whether various planning methods for speaking tasks would impact the fluency of the L2 learner's productions. To answer the question, the learners' speech productions were analyzed in terms of duration, words per minute, and pauses per minute. Based on the results of the statistical analysis, the impact of planning on the duration of the L2 learners' speech productions only approached significance. However, as the reader will recall, the analysis also investigated the role of task, i.e., what prompt the learners responded to. Task was found to have a significant effect on the duration of the speech delivered by students. However, both task and planning affected the number of words produced per minute, as well as the number of pauses per minute.

When subsequent Tukey-Kramer post hoc analyses were performed to investigate the nature of these differences, several patterns emerged. The following table summarizes the impact of teacher-led planning in comparison to the no planning and solitary planning conditions based

on the post hoc analyses. First, there was a significant difference between Thompson’s approach to pre-speaking and no planning for both words per minute and pauses per minute. For words/minute, Prelude to Conversation resulted in more words produced per minute. However, in terms of pauses/minute, the no planning treatment resulted in more pauses. This is evidenced in the speech samples transcribed in Appendix G.

Table 8

Summary of the Impact of Teacher-Led Planning on Fluency

		Teacher-led planning is better than no planning	Teacher-led planning is better than solitary planning
FLUENCY	Duration	Impact of planning only approaching significance	
	Words/min	✓ (<i>p</i> =.0026)	** (<i>p</i> =.0659)
	Pauses /min	✓ (<i>p</i> =.0135)	✓ (<i>p</i> =.0034)

✓ Significant

** Approaching Significance

A similar pattern emerges for the comparison between Thompson’s pre-speaking and solitary planning. Although teacher-led planning resulted in more words/minute, the difference was suggestive, i.e., approaching significance. However, subjects performing under the solitary planning condition did use significantly more pauses than when they participated in the teacher-led planning treatment. These findings suggest that Prelude to Conversation has a more positive impact on fluency in terms of words and pauses/minute than either of the other two planning conditions.

These results should, however, be regarded with caution. The transcriptions of the samples revealed that samples may be longer not because the subjects had produced more words but because they had paused more frequently or for longer amounts of time. The length of the sample is therefore not necessarily representative of the fluency for all subjects and is different from the amount of speech that could have been calculated through the total number of words produced. Because of the weakness of this measure of fluency, we could disregard it and then, as shown in the table above, the impact of planning on fluency would have been demonstrated for the two remaining measures (words/min. and pauses/min.). Keeping in mind the fact that both task and planning influenced fluency, and that teacher-led planning was shown as facilitating fluency more than the other treatments, let us now turn our sights to the effect of planning on the complexity of students' responses.

RQ2: What effect do different planning treatments have on the complexity of L2 learners' production in an oral task?

RQ2 investigated the impact of planning on complexity, which was measured through the mean length of the utterances produced by the subjects. The Mixed Model analysis showed that, unlike for fluency, task did not have any influence on the speech produced. However, planning did have an impact on complexity. The analysis revealed that the subjects produced more words per sentence under the teacher-led planning condition than either the no planning or solitary planning conditions. The results of the Tukey-Kramer tests, however, showed that the difference between Thompson's approach to pre-speaking and both the no planning and solitary planning conditions were only approaching significance.

Table 9*Summary of the Impact of Teacher-Led Planning on Complexity*

		Teacher-led planning is better than no planning	Teacher-led planning is better than solitary planning
COMPLEXITY	Length of utterances	** ($p=.0140$)	** ($p=.0168$)

✓ Significant

** Approaching Significance

In the post-study survey, several subjects mentioned that complexity was more easily attained under the solitary planning condition because they could memorize sentences during the five minutes they were given. In light of those comments, if students actually learned by heart sentences while planning, we should assess the effect of teacher-led planning even more positively: although the difference between the treatments is just approaching significance, the subjects under this treatment produced slightly longer sentences without having the time to prepare them beforehand because teacher-led planning does not involve any individual time for students to plan.

This consideration might be applied to fluency as well: with a collective use of their planning time, subjects were able to individually make fewer pauses per minute. It might be that the subjects under the solitary planning condition were trying to remember the sentences they had planned, but whatever the reason, the subjects created on the spot more complex and more fluent sentences under the Prelude to Conversation condition in comparison to when they actually have an individual time to prepare what they want to say.

To conclude this section and answer RQ2, planning did have an impact on complexity although the difference between teacher-led planning and the other treatments only approached significance. The next section now focuses on the impact of planning on accuracy.

RQ3: What effect do different planning treatments have on the accuracy of L2 learners’ production in an oral task?

RQ3 examined the effect of planning of the accuracy of L2 learners. In this study, accuracy was measured through the percentage of errors produced by the subjects. The analysis of the variables that impacted the percentage of errors per utterance proved that planning condition is the only variable influencing the accuracy of L2 learners. As shown in the subsequent table, it also demonstrated that teacher-led planning was different from solitary planning. Subjects made fewer mistakes under the teacher-led planning treatment than during their involvement with either no planning or solitary planning as illustrated in Table 10. The difference between teacher-led planning and no planning, however, only approached significance.

Table 10

Summary of the Impact of Teacher-Led Planning on Accuracy

		Teacher-led planning is better than no planning	Teacher-led planning is better than solitary planning
ACCURACY	Percentage of errors	** ($p=.0195$)	✓ ($p=.0021$)

✓ Significant

** Approaching Significance

It may well be that when students had not yet internalized a grammatical structure. For instance, they might not have remembered to use it under the no planning treatment. Therefore, they took

fewer risks (resulting in a higher accuracy score) than students who might have thought that they had to use a structure they had not mastered yet but felt pressured to use because it was written on the board (under the teacher-led planning condition). However, this statement should not weaken the impact of teacher-led planning, because if it is led correctly by the teacher and if students are fully involved, that structure principle should be summarized and an example should be given, allowing the students to review (or understand for the first time in some cases) that structure.

In short, to answer RQ3, we can state that planning once again had an impact on accuracy. More to the point, teacher-led planning appeared to result in better accuracy than solitary planning and also no planning, though not significantly better.

Having discussed the impact of planning on linguistic factors such as fluency, accuracy and complexity, let us now turn our focus to the last question, namely to the impact of planning of anxiety.

RQ4: What effect do different planning treatments have on the anxiety of L2 learners' production in an oral task?

The last research questions focused on the anxiety felt by students during the task. As stated in Chapter 3, the anxiety of the subjects was measured by comparing the pre-task anxiety and during-task anxiety as rated by the subjects in the pre and post-anxiety surveys. The Mixed Model analysis demonstrated that the pre-task anxiety of the subjects and the task were the only two variables which had an impact on the anxiety of the students. The mixed effect of planning over anxiety expressed in the discrepancies in the answers of the post-study survey was also found by Ortega (2005). Her subjects also complained that pre-task planning added pressure to the performance whereas it allowed others to boost their self-confidence before the task and

actually take the time to use affective strategies with the goal to lower their anxiety level before they were to perform the task.

Now that the four research questions have been answered, we can conclude that planning not only has an impact, but indeed that the variety of teacher-led planning tested here in this thesis appears to provide the greatest advantages over the other planning conditions to increase the fluency, complexity, and accuracy of the students. However, planning does not impact their anxiety level as it was predicted.

Implications

The implications of this study go beyond the original four research questions we set out to explore. In this section I turn to the implications of the findings, based on results of the study discussed above. While also addressing issues such as task choice, I focus especially in what contributions this study makes in comparison to those already conducted regarding planning effects.

Carefully choosing tasks

Although the anxiety of students was shown to be unaffected by the planning condition, it was nevertheless affected by the task and the pre-task anxiety of the students. The fact that pre-task anxiety, as recorded in the pre-anxiety survey taken by the students, influences the anxiety felt while performing the task is logical. However, the fact that the type of task influences anxiety is more surprising. In this study, the subjects generally performed better for Task 2, the task requiring them to describe their weekly schedule. The anxiety of students actually decreased between the pre-anxiety survey and the post-task anxiety survey (see Appendix F, Table 36). In other words, the subjects felt anxiety before they saw the prompt, and their anxiety decreased as

they were performing the task. For the other tasks, the anxiety increased while they were performing the task.

It is therefore important to discuss the difference between the tasks given to subjects. Task 2 required them to describe their weekly schedule, a topic that was connected to their personal life, which was not the case of the other tasks. For instance, Task 1 asked subjects to describe the perfect city, and Task 3 expected them to explain why they would like to study in France, therefore checking their cultural knowledge about the French education system. Task 1 and Task 3 thus required additional cognition than Task 2, and it impacted the anxiety level of subjects.

The results of this study show that creating a low-anxiety classroom environment is not enough to lower the affective filter of students because they are affected by the type of task they have to perform. When asking their students to perform, teachers therefore need to be aware of the difficulty of the task they give them by considering the language factors, cognitive factors, and online processing associated to the task (Skehan, 1996).

Contributions and connections to previous research

I now compare previous research mentioned in Chapter 2 with the results of this study. The results are consistent for the construct of fluency, as shown in Table 11.

Table 11*Comparison of Results on Fluency with Previous Studies*

	Previous Research	Match	This study
FLUENCY	Ortega (1999): students who were given time to plan spoke more fluently. Yuan & Ellis (2003): pre-task planning had a better impact on fluency than no planning.	Partial	The ability to have some sort of planning did not result in greater fluency, although opportunity to plan under the teacher-led condition resulted in greater fluency than no planning. The planning opportunity given to the solitary planners, however, did not result in greater fluency than the no planning.
	Foster & Skehan (1996): guided and unguided planning led to better fluency for personal information tasks and decision making tasks. Guided planning led to more fluency than unguided planning for narrative tasks.	Partial	Task also had an effect on fluency: the more personal information task (i.e. describing schedule) overall was better than the fact-based tasks regardless of the planning condition.
	Final summary: <ul style="list-style-type: none"> a) Opportunity to plan are not a guarantee of better fluency; how that time is used impacts fluency. b) Task influenced fluency independent of any planning condition. 		

In terms of fluency, the results of the study correspond in a limited way to findings of previous research. Whereas Ortega (1999) noted that students spoke more fluently when they were given time to plan, this study found that having to plan alone was an insufficient factor in increased fluency. Likewise, Yuan and Ellis (2003) noted that having the opportunity to plan what to say before production tasks resulted in greater fluency. Once again, the opportunity to plan alone did not result in increased fluency. Indeed, this study demonstrates that increased fluency did not arise simply from additional time or the chance to plan. If this were the case, both solitary planning and teacher-led planning should have resulted in greater levels of fluency than the no planning condition. Instead, only teacher-led planning resulted in a significant

increase in fluency. This suggests that it is not time and opportunity to plan that guarantees better fluency but rather how that time is used to prepare.

Foster and Skehan (1996), who used task as a moderator variable, found that the task type influenced the impact of planning on fluency. As they found, guided and unguided planning led to better fluency for personal information tasks and decision making tasks. On the other hand, guided planning led to more fluency than unguided planning for narrative tasks. Similarly, this thesis demonstrated that different task types impacted the fluency. The subjects performed better in terms of fluency while discussing their weekly schedule as opposed to when they had to describe the perfect city or the French educational system. Unlike Foster and Skehan (1996), however, planning conditions did not interact with the fluency of the subjects' responses to the various task types. Thus, in terms of fluency, the results of this study partially confirm previous research while demonstrating a more complex role and interaction with task and planning condition.

Turning now to complexity, the comparison between the results of this study and previous studies is more difficult. This is in part due to the fact that previous studies tested more advanced learners allowing for better measures of complexity than the one used in this study.

Table 12*Comparison of Results on Complexity with Previous Studies*

	Previous Research	Match	This study
COMPLEXITY	Ortega (1999): subjects in the planning groups created more complex utterances (but no statistical difference for type-token ratios).	Partial	Teacher-led planning resulted in slightly longer utterances than solitary planning or no planning.
	Yuan & Ellis (2003): pre-task planning had a positive effect on complexity.		
	Foster & Skehan (1999): solitary planners created more complex sentences than planners led by the teacher.	Disagree	
	Foster & Skehan (1996): for subordination, guided planning was better than unguided planning, which is better than no planning. For structural variety, no significant impact of planning.	N/A	There is no basis for comparison because subjects were not advanced enough to use subordination.
	Final summary: Planning alone is not sufficient for increased complexity.		

To begin our comparison, it is interesting to note that in Foster and Skehan’s study (1999), the solitary planners were creating sentences that were more complex than the planners who had been led by the teacher. This study, on the other hand, demonstrated that the difference between solitary planning and Prelude to Conversation was nearly significantly different, showing the superiority of Thompson’s method in achieving complexity. However, the fact that this study produced different results than Foster and Skehan’s study (1999) can be explained easily: the traditional teacher-led planning that they researched is different from the teacher-led planning used in this thesis based on Thompson’s pre-speaking approach which helps students focus on both content and form. What is perhaps most striking, however, is that complexity garnered the

highest favorability rating for solitary planning than for any other factor examined in this thesis, even though Prelude to Conversation still outscored solitary planning.

Complexity highlights one of the limitations of this study in terms of its ability to be compared against previous research, namely Ortega (1999), Yuan and Ellis (2003), etc. Because subjects were not advanced enough to use for instance subordination or a concatenation of multiple phrase types as used in other studies, the comparison is difficult. Nevertheless, the results demonstrate that planning alone does not lead toward more complexity, but it is the planning of both content and form facilitates the production of longer utterances.

Finally, we turn to a comparison of studies in terms of the effect of planning on accuracy.

Table 13*Comparison of Results on Accuracy with Previous Studies*

	Previous Research	Match	This study
ACCURACY	Ortega (1999): impact of planning on some grammatical structures but not others.	N/A	Because the subjects' novice proficiency level, errors more often than not could not be teased apart, differences in grammatical structures could not be assessed.
	Foster & Skehan (1996): no impact of planning on accuracy for the narrative task, but positive impact on the personal and decision-making tasks.	Disagree	Teacher-led planning positively impacted accuracy regardless of the task type.
	Yuan & Ellis (2003): planning had a weak but positive impact on the accuracy of students. Foster & Skehan (1999): teacher-led planning led to more accuracy than solitary planning, group planning, or no planning.	Partial	Teacher-led planning tended to be better than no planning, and it was better than solitary planning.
	Final summary: a) Task did not influence the accuracy of the students. b) Teacher-led planning helped the subjects produce more accurate speech. c) Planning alone does not influence accuracy equally, but rather the nature of the planning determines the amount of accuracy.		

Discrepancies are the highest when we compare all studies in terms of accuracy, not only in comparison with this study but with one another. Researchers have investigated the impact of planning on specific grammatical structures but due to the lower proficiency level of the subjects of this study, it was impossible to reliably draw conclusions about the effect of planning on specific structures. For instance, when subjects pronounced the final consonant of an adjective, such as *petit* 'small' it was unclear whether they were making a pronunciation error or an agreement mistake because the pronunciation of this word with the final consonant makes it feminine, i.e. *petite*. This is a downside to using speaking activities instead of writing tasks. However, this study confirmed the results obtained by Foster and Skehan (1999) regarding the

positive impact of teacher-led planning on accuracy. Thompson's approach to teacher-led planning also resulted in helping students produce more accurate speech. This is quite possibly the case because in this type of planning, students are led to focus on both form and content. Not only can they balance their attention between the two, but they can also review grammatical rules, but more importantly, thanks to the teacher, anticipate errors and possible difficulties.

The positive impact of Thompson's teacher-led planning

Compared to the other two planning conditions, teacher-led planning and more specifically Thompson's pre-speaking method was found to be either significantly different, or approaching significance, therefore positively influencing the fluency, complexity, and accuracy of the speech produced by the students. Based on the Mixed Model analysis, on the comments of the subjects in the post-study survey and on my experience as a teacher using Thompson's pre-speaking in my own language classroom, it can be argued that this pre-speaking method helps students to be better prepared for the task they have to perform.

First, this teacher-led approach to pre-speaking enables students to understand the task, both through the questions asked by the teacher during brainstorming with the class, and also through the model if provided after that first part of pre-speaking. Prelude to Conversation activates the students' background knowledge, something that is commonly done as a preparation for reading, listening, and writing activities (Grabe & Stoller, 2011; Hyland, 2001; Rost, 2011) but is for some reason only rarely, if ever, done for speaking activities. Thompson's method is a way for the teacher and the students to generate ideas and to elaborate by talking with more details about what can be said during the task. This planning condition also helps with the organization of ideas. Students can also refresh their memory about form, and by anticipating their mistakes, the teacher helps them perform as accurately as possible. In addition, modeling

can also increase their self-confidence because they know what they are supposed to do and have more realistic expectations about the task. If chosen well, a creative model can itself generate ideas for students and might impact their motivation for the task. Because of its collaborative nature, Prelude to Conversation can also provide direct feedback to the students before they even perform the task, something that the no planning and solitary planning conditions cannot offer students.

Limitations

Despite finding significant results, this study has a number of limitations. This section will describe some of the key limitations that impacted the study.

First, only a subset of potential measures were used in this study, and it now appears that several measures used in the experiment were not optimal. The measure of duration, already discussed above, did not necessarily demonstrated how long the subjects spoke because it took into account their pauses. The measure of complexity, i.e. the length of utterances, was not without difficulty either. As shown in Chapter 2, most researchers who have studied planning have measured complexity through the number of clauses per different types of units (Foster and Skehan, 1997; Yuan and Ellis, 2003; Mochizuki and Ortega, 2008) or the number of subordinate clauses (Wigglesworth, 1997; Skehan and Foster, 2005). However, because of the low proficiency level of the subjects in this study, it was impossible to replicate this measure and the length of utterances was used instead, forcing me, from time to time, to redefine what constituted a sentence for the subjects. In some cases, as shown in Appendix G, their sentences were incomplete, but they were still given credit for a single sentence unit. The measure of anxiety was also limited, because it was only calculated by measuring the difference between pre-task and during task anxiety. More could have been analyzed, especially given the length of the

questionnaire (eleven questions were similar between the pre and post-anxiety surveys). Follow-up interviews could also been used to probe anxiety. Furthermore, instead of testing anxiety, it would have been interesting to look at the willingness to communicate or at other individual differences that can impact the performance of students.

Second, because the subjects were recorded in a computer lab, their experience with the planning treatments was different from what they would have been in a regular language classroom. Because they were not used to being recorded on a computer, they might have felt more anxiety than they would have while performing the same task in a classroom environment.

Moreover, even if group size was never proven to have a significant impact on the different dependent variables of this study, it might still have affected the subjects in another way (maybe their opinion in the post-study survey), especially as they were experiencing the pre-speaking condition. Thompson's pre-speaking involves the collaboration of students led by a teacher, but when only a few subjects participated in a session, their involvement and contribution was different from what would have happened in a larger group.

Furthermore, technical problems occurred during several sessions. Despite the fact that recordings were lost²³, as stated in Chapter 3, the fact that some students had to record the same task twice because they were not recorded the first time, or because they received the wrong treatment, must be considered as a limitation as it might have impacted their performance as well as the anxiety they felt. Despite the technical problems and the loss of data, several subjects did not complete the three treatments by coming to all three sessions, thus decreasing the total number of subjects to 37, and creating small and uneven groups.

Lastly, as it was already mentioned, the tasks were not seen as equally difficult by the students (and may not have had the same level of difficulty), therefore complicating the

²³ However, it was taken into account in the analysis through a reduced Mixed Model.

comparison of the samples. As some students came from different sections of French 101, they might have done different activities in their own classes and might consequently be more familiar with some tasks than other students²⁴.

Suggestions for Future Research

A number of future research projects naturally emerge from this study. First, complexity could be measured through the length of utterances as Ortega (1999) did. Moreover, students could be recorded as part of a classroom routine (Foster and Skehan, 1996) while ensuring that the tasks performed by the subjects of a future experiment would have the same level of difficulty (based on Skehan's (1996) perspective to rank the difficulty of tasks) or to continue what Foster and Skehan (1996) started as they looked at the impact of task type on planning by using task type as a moderator.

Moreover, it would be interesting to see if the results found in this study are limited to monologic tasks or if they can be applied to dialogic discourse. In this study, subjects were not required to infer meaning while conversing with another person; they were simply talking without being interrupted. The results might have been different if subjects had been performing a task in a dyad. Subjects could be recorded as dyads, as in Foster and Skehan's research (1999).

The generalization of the results can also be questioned in terms of the proficiency level of the students (a question raised by Sangarun, 2005), even though it is predicted that teacher-led pre-speaking would again have an impact more positive than the ones of solitary planning or no planning.

Considering anxiety, it would be useful to collect more data on the subjects to understand if planning can have an impact on specific groups of people and not others (maybe only those

²⁴ This limitation was decreased because the tasks used in this study were slightly different from classroom activities – except for Task 2.

who have not lived in another country can benefit from the impact of teacher-led pre-speaking regarding the decreased of their anxiety level). Planning might also have an impact on the motivation of the students for performing tasks. For instance, if creative, the model given in this variety of teacher-led pre-speaking might motivate students to be creative as well because they might realize that they can not only enjoy their time listening to the L2 but also enjoy their time producing in the L2.

Finally, another potential area of research relates to Prelude to Conversation discussed in this thesis. Its positive impact has only been demonstrated for the fluency, complexity, and accuracy of students, but this initial finding is only opening the doors of research on the topic. In this study, the impact of teacher-led approach to planning has been demonstrated in a classroom atmosphere, but one could research its impact on students for oral exams. Moreover, this approach might have the potential to not only increase the level of performance of students on specific tasks but increase their overall proficiency level if done continually.

Conclusion

This study has examined the impact of a new type of planning condition, namely Thompson's pre-speaking method, which focuses on both content and form while students are led by their teacher. The effect of this pre-speaking method was measured through the means of the three variables typically used by researchers in this field, i.e. fluency, complexity, and accuracy, but also on anxiety. The statistical analysis proved that planning does have an effect on the fluency, complexity, and accuracy of the subjects, but not on their anxiety level. Task and pre-task anxiety, however, affected the anxiety experienced during the task.

This teacher-led approach to planning, which was the preferred planning condition of the learners, was found as better than the other treatments for fluency, complexity, and accuracy (the

results being either statistically significant or approaching significance for all measures). It helps students prepare for a specific task, improving both the quantity and the quality of their performance, but also helps them on a larger scale as they are given confidence to perform in the target language. In sum, this thesis demonstrates that having time to plan is not a sufficient condition for success. Indeed, it is how the teacher allots the planning time in preparation for speaking tasks that will determine how well the students will perform. This thesis only starts to scratch the surface and serves as a call for further investigation into the promising effects of this planning type on increasing the proficiency level of all language learners in the long term.

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Appendix A

Tasks

Week 1

You are taking a civil engineering class and your professor asks you to describe the perfect city. Mention the various places of interest and their locations relative to one another. Give as many details as you can!

Week 2

A friend from high school does not understand why you are SO busy. What on earth are you doing each day? Describe in detail your class schedule and daily activities.

Week 3

You are meeting with an advisor to prepare your class schedule for next semester. Tell her why you'd like to study in France: describe the school system there, what classes people are able to take, and what their schedule is like.

Appendix B

Pre-Speaking Activities

Pre-Speaking: Week 1

You are taking a civil engineering class and your professor asks you to describe the perfect city. Mention the various places of interest and their locations relative to one another. Give as many details as you can!

Table 14

Pre-Speaking: Week 1

CONTENT	FORM
Qu'est-ce qu'il y a dans une ville ? Quels bâtiments ?	restaurant, pharmacie, école, université, hôpital, musée, université, supermarché, poste, gare, parc, café, église, hôtel, magasin, maison → Il y a ≠ il n'y a pas DE
Détails sur les bâtiments : COMMENT sont-ils ?	beau, joli, vieux, nouveau, mauvais, bon, petit, grand, autre → Avant ou après le nom ? BAGS → Différence si c'est masculin ou féminin → Bel/nouvel/vieil = différent
Activités : POURQUOI est-ce que les bâtiments sont importants	travailler, manger, dîner, acheter, voir un film, danser, lire un livre, visiter, retrouver des copains, jouer (au tennis), voyager
OU sont les bâtiments ?	entre, derrière, devant, en face de, loin de, près de, à côté de, au coin de → de + le = DU → de + la = DE LA → de + l' = DE L' → de + les = DES Les parties de la ville : dans la banlieue, dans un quartier, dans le centre-ville

MODELING

Dans la ville parfaite, il y a une grande place au centre-ville. Près de la place, il y a un café et des restaurants pour manger avec des amis. Derrière les bons restaurants c'est possible d'aller acheter des vêtements dans de nouveaux magasins. Les personnes aiment faire des promenades dans le parc à côté des magasins. J'aime téléphoner à ma famille dans le parc. En face des restaurants et des cafés, il y a un nouveau musée et une vieille église. C'est parfait pour les touristes qui sont dans la ville. Dans un autre quartier, il y a une école et une grande université pour étudier. Loin du centre-ville, dans la banlieue, il y a un supermarché et une gare pour voyager.

Pre-Speaking: Week 2

A friend from high school does not understand why you are SO busy. What on earth are you doing each day? Describe in detail your class schedule and daily activities.

Table 15

Pre-Speaking: Week 2

CONTENT	FORM
Heure	à... et quart/et demie/moins le quart du matin, de l'après-midi, du soir de... à heure formelle : 4h00 → 16h00 commencer ; finir
Jour	le lundi ≠ lundi
Ecole : matières	un cours DE, une classe DE la biologie, la philosophie, le français, ... prendre/ apprendre/ comprendre
Activités	<ul style="list-style-type: none">- surfer sur internet- manger- étudier à la bibliothèque- FAIRE (ses devoirs, la sieste, la grasse matinée, de la musique, du sport, ...)- dormir
Connections	avant, après, plus tard aujourd'hui (+ présent) demain (+ futur proche = aller + infinitif) qui

MODELING

Flavie, je suis très occupée à l'université. Le lundi, j'ai un cours de français à neuf heures du matin. Après, je vais à la bibliothèque pour étudier pour mon cours d'histoire, qui est à onze heures. Je mange à midi avec mes amis, et je travaille dans un petit magasin sur le campus de une heure à quatre heures de l'après-midi. Après le travail, je fais du sport, je mange le dîner et je fais mes devoirs.

Pre-Speaking: Week 3

You are meeting with an advisor to prepare your class schedule for next semester. Tell her why you'd like to study in France: describe the school system there, what classes people are able to take, and what their schedule is like.²⁵

Table 16

Pre-Speaking: Week 3

CONTENT	FORM
Emploi du temps	Jour le lundi ≠ lundi Heure à ... et quart/et demie/moins le quart du matin, de l'après-midi, du soir de... à heure formelle : 4h00 → 16h00 commencer ; finir
Matières	avoir un cours DE, une classe DE étudier la biologie, la philosophie, le français, ... apprendre/comprendre
Différences	Le lycée : le bac (passer ≠ rater) L'enseignement supérieur Grandes écoles : concours, classes prépa, colles Compétitif (l'élite intellectuelle), difficile. Prestigieux, 3 ans Université/la fac : gratuit, 3 ans Logement : chez un particulier, rarement dans une résidence universitaire Cours particuliers (prendre) : activités extracurriculaires (faire de la natation, du jogging, de la gymnastique, ...)
Verbes importants	pouvoir vouloir : désir

²⁵ Because this task limited the creativity of students, no model was provided to prevent them from copying it.

Appendix C

Pre-Task Anxiety Survey

1. Name: _____

2. I don't worry about making mistakes when I speak French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

3. I never feel quite sure of myself when I am speaking French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

4. I am usually at ease during speaking activities in French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

5. I start to panic when I have to speak French on the spot.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

6. I don't understand why some people get so nervous when speaking French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

7. How nervous do you feel right now having to speak French in this session?

- 1 - not at all nervous, totally relaxed
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10- totally nervous

8. Even if I am well prepared, I feel anxious about speaking in French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

9. I feel very self-conscious about speaking French in front of other people.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

10. I feel more tense and nervous when I have to speak in my language class than in my other classes.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

11. I feel nervous and self-conscious speaking in front of other people even when I speak my native language (no matter what language I have to speak in).

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

Appendix D

Post-Task Anxiety Survey

1. Name: _____

2. I don't worry about making mistakes when I speak French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

3. I never feel quite sure of myself when I am speaking French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

4. I am usually at ease during speaking activities in French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

5. I start to panic when I have to speak French on the spot.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

6. I don't understand why some people get so nervous when speaking French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

7. Even if I am well prepared, I feel anxious about speaking in French.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

8. I feel very self-conscious about speaking French in front of other people.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

9. How nervous do you feel right now?

- 1 - not nervous at all, totally relaxed
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10 - totally nervous

10. I feel more tense and nervous when I have to speak in my language class than in my other classes.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

11. I feel nervous and self-conscious speaking in front of other people even when I speak my native language (no matter what language I have to speak in).

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

12. The activity I just did was easy.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

13. On a scale of 1 to 10, how nervous did you feel doing the activity?

1 - not at all nervous, totally relaxed

2

3

4

5

6

7

8

9

10 - totally nervous

Appendix E

Post-Survey²⁶

1. Name: _____

2. What type of planning activities, i.e., the opportunity to prepare for your speaking activity, did you prefer (no planning, solitary planning, planning led by the teacher) and why?

Weeks	Planning Activities
Week 1	No Planning
Week 2	Planning Led by Teacher
Week 3	Solitary Planning

3. Which planning type(s) do you think helped your fluency the most? Why?

4. Which planning type(s) do you think most helped you make your sentences more complex? Why?

5. Which planning type(s) do you think most helped you reduce the amount of mistakes? Why?

6. Did you feel speaking anxiety when completing the task? Were there any planning activities that helped you feel less anxious when you had to speak? If so, which one(s) and why?

7. If you would be willing to participate in a brief ten-minute interview with the researcher to help her better understand the impact of planning and your experience in this study, please provide your email address. After the interview, your name and personal information won't be used to identify you and your responses.²⁷

²⁶ The survey was similar for all students except for the table in question 1, which was adapted for each group so that they would remember in which order they went through each treatment.

²⁷ Because students elaborated in this written survey, giving enough information for the purpose of this study, no interviews were conducted.

Appendix F

Statistical Results

RQ1: What effect do different planning treatments have on the fluency of L2 learners' production in an oral task?

Table 17

Effect of Task and Treatment on Duration

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Task	2	53	5.77	0.0054
Treatment	2	53	4.14	0.0213

Table 18

Least Square Means Analysis for Duration

Least Squares Means							
Effect	Task	Treatment	Estimate	Standard Error	DF	t Value	Pr > t
Task	1		170.36	13.9209	53	12.24	<.0001
Task	2		218.45	15.2676	53	14.31	<.0001
Task	3		186.06	15.1294	53	12.30	<.0001
Treatment		1	171.79	14.7358	53	11.66	<.0001
Treatment		2	212.69	15.0054	53	14.17	<.0001
Treatment		3	190.39	14.5443	53	13.09	<.0001

Table 19

Differences of Least Squares Means for Duration

Differences of Least Squares Means							
Effect	Task	Treatment	Task	Treatment	Pr > t	Adjustment	Adj P
Task	1		2		0.0014	Tukey-Kramer	0.0040
Task	1		3		0.2699	Tukey-Kramer	0.5092
Task	2		3		0.0349	Tukey-Kramer	0.0868

Table 20*Differences of Least Squares Means for Duration*

Differences of Least Squares Means							
Effect	Task	Treatment	Task	Treatment	Pr > t	Adjustment	Adj P
Treatment		1		2	0.0058	Tukey-Kramer	0.0157
Treatment		1		3	0.2004	Tukey-Kramer	0.4034
Treatment		2		3	0.1314	Tukey-Kramer	0.2843

Table 21*Effect of Task and Treatment on Words per Minute*

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Task	2	53	11.68	<.0001
Treatment	2	53	6.39	0.0033

Table 22*Differences of Least Squares Means for Words per Minute*

Differences of Least Squares Means							
Effect	Task	Treatment	Task	Treatment	Pr > t	Adjustment	Adj P
Task	1		2		<.0001	Tukey-Kramer	0.0002
Task	1		3		0.0003	Tukey-Kramer	0.0009
Task	2		3		0.6221	Tukey-Kramer	0.8736

Table 23*Least Square Means Analysis for Words per Minute*

Least Squares Means							
Effect	Task	Treatment	Estimate	Standard Error	DF	t Value	Pr > t
Task	1		35.3812	2.4011	53	14.74	<.0001
Task	2		42.0029	2.5022	53	16.79	<.0001
Task	3		41.2136	2.4926	53	16.53	<.0001
Treatment		1	37.1850	2.4643	53	15.09	<.0001
Treatment		2	42.4985	2.4845	53	17.11	<.0001
Treatment		3	38.9142	2.4460	53	15.91	<.0001

Table 24*Differences of Least Squares Means for Words per Minute*

Differences of Least Squares Means							
Effect	Task	Treatment	Task	Treatment	Pr > t	Adjustment	Adj P
Treatment		1		2	0.0009	Tukey-Kramer	0.0026
Treatment		1		3	0.2677	Tukey-Kramer	0.5061
Treatment		2		3	0.0260	Tukey-Kramer	0.0659

Table 25*Effect of Task and Treatment on Pauses per Minute*

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Task	2	53	72.27	<.0001
Treatment	2	53	6.78	0.0024

Table 26*Least Squares Means for Pauses per Minute*

Least Squares Means							
Effect	Task	Treatment	Estimate	Standard Error	DF	t Value	Pr > t
Task	1		5.2074	0.3405	53	15.29	<.0001
Task	2		9.3824	0.3918	53	23.95	<.0001
Task	3		10.8201	0.3857	53	28.06	<.0001
Treatment		1	8.8820	0.3697	53	24.02	<.0001
Treatment		2	7.3984	0.3799	53	19.47	<.0001
Treatment		3	9.1295	0.3652	53	25.00	<.0001

Table 27*Differences of Least Squares Means for Pauses per Minute*

Differences of Least Squares Means							
Effect	Task	Treatment	Task	Treatment	Pr > t	Adjustment	Adj P
Task	1		2		<.0001	Tukey-Kramer	<.0001
Task	1		3		<.0001	Tukey-Kramer	<.0001
Task	2		3		0.0088	Tukey-Kramer	0.0236

Table 28*Differences of Least Squares Means for Pauses per Minute*

Differences of Least Squares Means							
Effect	Task	Treatment	Task	Treatment	Pr > t	Adjustment	Adj P
Treatment		1		2	0.0050	Tukey-Kramer	0.0135
Treatment		1		3	0.6210	Tukey-Kramer	0.8729
Treatment		2		3	0.0012	Tukey-Kramer	0.0034

RQ2 What effect do different planning treatments have on the complexity of L2 learners' production in an oral task?**Table 29***Effect of Treatment on Length of Utterances*

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Treatment	2	55	5.51	0.0066

Table 30*Least Squares Means for Length of Utterances*

Least Squares Means						
Effect	Treatment	Estimate	Standard Error	DF	t Value	Pr > t
Treatment	1	11.3713	0.5853	55	19.43	<.0001
Treatment	2	13.3296	0.6012	55	22.17	<.0001
Treatment	3	11.3835	0.5838	55	19.50	<.0001

Table 31*Differences of Least Squares Means for Length of Utterances*

Differences of Least Squares Means				
Effect	Treatment	Treatment	Adjustment	Adj P
Treatment	1	2	Tukey-Kramer	0.0140
Treatment	1	3	Tukey-Kramer	0.9998
Treatment	2	3	Tukey-Kramer	0.0168

RQ3What effect do different planning treatments have on the accuracy of L2 learners' production in an oral task?

Table 32*Effect of Task, Group Size, and Treatment on Percentage of Errors*

Type 3 Tests of Fixed Effects				
Effect	Num DF	Den DF	F Value	Pr > F
Task	2	52	1.33	0.2726
group_size	1	52	1.42	0.2388
Treatment	2	52	7.00	0.0020

Table 33*Least Squares Means for Percentage of Errors*

Least Squares Means							
Effect	Task	Treatment	Standard		DF	t Value	Pr > t
			Estimate	Error			
Task	1		11.9876	0.8567	52	13.99	<.0001
Task	2		12.4690	0.9350	52	13.34	<.0001
Task	3		13.4948	0.9168	52	14.72	<.0001
Treatment		1	13.2494	0.8831	52	15.00	<.0001
Treatment		2	10.6736	0.9138	52	11.68	<.0001
Treatment		3	14.0283	0.8705	52	16.12	<.0001

Table 34*Differences of Least Squares Means for Percentage of Errors*

Differences of Least Squares Means							
Effect	Task	Treatment	Task	Treatment	Pr > t	Adjustment	Adj P
Task	1		2		0.6266	Tukey-Kramer	0.8766
Task	1		3		0.1192	Tukey-Kramer	0.2615
Task	2		3		0.2835	Tukey-Kramer	0.5283
Treatment		1		2	0.0072	Tukey-Kramer	0.0195
Treatment		1		3	0.3928	Tukey-Kramer	0.6666
Treatment		2		3	0.0007	Tukey-Kramer	0.0021

RQ4: What effect do different planning treatments have on the anxiety of L2 learners' production in an oral task?

Table 35*Effect of Pre-task Anxiety, Task, and Treatment on Anxiety*

Type 3 Tests of Fixed Effects					
Effect	Num DF	Den DF	F Value	Pr > F	
Pre	1	52	18.59	<.0001	
Task	2	52	8.68	0.0006	
Treatment	2	52	0.48	0.6244	

Table 36*Anxiety Increase per Task*

	Difference in Anxiety between the Pre-Task Anxiety Survey and the Post-Task Anxiety Survey
Task 1	1.135135135
Task 2	-0.214285714
Task 3	0.655172414

Appendix G

Transcriptions

The following transcriptions present the answers to Task 1 given by three students who all had a different preparation for the task.

No planning (Subject 20)

Les ville parfait es HEU une banlieue heu PAUSE a cote des PAUSE a cote des supermarchés et HEU activités tes. Les. Les villes HEU. Es grandes. Heu. Y boco pourquoi personnes HEU la ville a une cinéma y PAUSE y une igle HEU. la ville PAUSE les villes HEU. Les villes est HEU la scenery HEU es belle PAUSE elle HEU très belle HEU.
Les montagnes HEU a cote des HMM en face des HEU la ville

Length: 2:20

Solitary planning (Subject 27)

La ville parfait est une petite ville à la montagne. HMM C'est PAUSE la ville parfait HMM a une grand parc. HMM près du HEU le centre-ville avec HMM à côté de les magasins et la cinéma. HMM l'université est loin du centre-ville, de la centre-ville HEU à côté, après de, près de la banlieue. La banlieue est un peu petite aussi, et est près de la supermarché et l'église.

Length: 1:37

Pre-speaking (Subject 43)

Dans ma ville parfait, il y a beaucoup de restaurant parce que j'aime manger et HEU puis il y a une grand HEU place dans le centre-ville et bon il y a beaucoup de restaurants. Il y a beaucoup de magasins grands avec beaucoup de choses et toujours j'aime acheter dans ces magasins. Et bon dans son place, dans ses place à côté de de HEU restaurants il y a un cinéma aussi et j'aime regarder HEU des films dans ces cinémas. HMM Et loin du cinéma, dans la banlieue, il y a une egli où je vais le dimanche et HMM bon HEU près de l'église HEU il y a ma maison, qui est très grande et très très belle aussi Et HEU ma maison est une maison rouge et HEU et une nouvelle maison aussi. HEU. Et en face de ma maison HEU il y a les maisons de mon ami de mes amis. Et les week-ends mes amis et moi nous aimons aller à grande place PAUSE à regarder des films et manger dans le restaurant. PAUSE. Bon aussi dans le centre-ville, à côté de la place, il y a une université qui s'appelle l'université de Brigham Young ou j'étudie tous les jours HEU et HEU avant l'université il y a PAUSE deux hopitals et beaucoup de pharmacies. Bon l'université de Brigham Young n'est pas nouvelle mais c'est vieux.

Length: 4:31