

The impact of planning time on children's task-based interactions

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Abstract

Recently, tasks have been advocated for their role in promoting participation in L2 interaction and the provision and use of feedback by language learners (Bygate, M., Skehan, P., Swain, M. (Eds.), 2001. *Researching Pedagogical Tasks: Second Language Learning, Teaching and Testing*. Pearson Education, Harlow). The relationship between various aspects of pre-task planning time and the quality of learners' output in terms of fluency, accuracy, and complexity (Ellis, R., 2005. *Planning and Task Performance in a Second Language*. John Benjamins Publishing Co, Philadelphia, PA) has primarily been investigated with adults. Despite general agreement that age plays an important role in SLA, and that tasks are widely used in classrooms, little research has concerned the benefits of pre-task planning for children. The current study examines the relationship between planning and production, with children carrying out tasks as part of their regular lessons in regular ESL classrooms. Twenty-one dyads of ESL learners, 5–12 years old, performed three communicative tasks over 3 weeks, with 0 min, 2 min and 5 min of planning time. In general, planning had limited benefits when considering use of corrective feedback and linguistic accuracy and fluency. Increased complexity was associated with 5 min of planning time. In general though, there was more talk, and more constructive on-task behavior among children when given little or no planning time.

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1. Introduction

1.1. *Interaction research and the provision and use of corrective feedback*

L2 interaction has been claimed to facilitate learning because, while focusing on communicating, learners can receive feedback and receive opportunities to make use of that feedback by modifying their output (Long, 1996; Gass, 2003). Both interactional feedback and modified output have been argued to be useful for L2 learning. Examples of the provision and use of corrective feedback appear in Examples 1 and 2. All examples shown in this paper are from the data collected for the current study. As shown in these examples, corrective feedback may take different forms and may or may not encourage or be followed by modified output as a response. First, Example 1 illustrates a clarification request which functions as interactional feedback. Learner A mispronounces the word “flying” and her partner, Learner B, asks for clarification. This seems to indicate to Learner A that her utterance has not been understood. In response, Learner A modifies her output, trying out a different pronunciation, and therefore using the feedback. In Example 2, corrective feedback is provided by Learner B in the form of a recast, that is, as a more target like version of what the learner has just said that, at the same time, preserves the learner’s meaning. One of the interesting things about recasts is that they provide both corrective feedback, and the target form for the learner. As shown in Examples 1 and 2, the feedback may be followed by modified output in response. Examples 3 and 4 demonstrate cases in which feedback is not followed by modified output. In Example 3, the recast is followed by a simple acknowledgement. In Example 4 there is no opportunity provided for modified output. B’s clarification “polar bear?”, is swiftly followed by the answer, leaving no reason for A to modify output. Instead, A continues with the task.

Example 1. Corrective feedback in the form of negotiation followed by modified output

- A: How many girls can you see feeling?
B: What?
A: How many girls you can see feeling fly fling?

Example 2. Corrective feedback in the form of a recast followed by modified output

- A: sit sit on the carring
B: Carrot
A: Carrot

Example 3. Corrective feedback in the form of a recast without modified output

- A: No excuse me [B] did the cow have wool wool?
B: No does a cow have a tail?
A: yeah

Example 4. Corrective feedback in the form of negotiation without modified output

A: where is the colar bear

B: polar bear? I don't have polar bear.

A: Where is the snake I tell you two times not talking just have to tell me

More than 30 empirical studies of interaction to date have associated corrective feedback, modified output and L2 learning (for review, see [Mackey, in press](#)). These empirical studies have mostly utilized communicative tasks and have measured learning outcomes or opportunities through negotiation, recasts or modified output of some type.

1.2. Task research and fluency, accuracy and complexity

Task-based research has to date been largely distinct from interaction research; research questions focus less on issues of second language (L2) development, and more on the immediate impact of various features of tasks, such as planning time, complexity, or repetition of tasks. The impact of tasks is generally measured by examining changes in fluency, accuracy and complexity (see, for example, [Ellis, 1987, 2005](#); [Foster, 1996](#); [Foster and Skehan, 1996](#); [Hulstijn and Hulstijn, 1984](#); [Ortega, 1999](#); [Sanguran, 2001](#); [Skehan, 1996](#); [Skehan and Foster, 1997](#); [Wigglesworth, 1997](#); [Yuan and Ellis, 2003](#)), whereas interactionist research typically measures outcomes in terms of modified output and acquisition. L2 learners' task-based interactions can vary according to many criteria. These include task type which can be interpreted as some form of cognitive load, time on task, which is often associated with communicative pressure, as well as type, amount and guidance in planning which have been argued to lead to different allocation of attentional resources ([Robinson, 2003](#)). As the primary focus of this paper, the following section briefly describes the ways in which the effects of planning, in particular, has been researched.

1.3. Planning

There are a number of different types of planning and these are discussed and operationalized by [Ellis \(2005\)](#). In the current study we investigate pre-task planning, sometimes known as strategic planning, where learners have the opportunity to plan before they produce language and carry out a task. Pre-task planning can be guided or unguided. In guided planning learners receive (more or less) detailed instructions about how to plan, for example by being advised to focus on syntax, lexis, content, or organization. Learners can plan individually or in small groups, pairs, or with a teacher. In the current study we focused on the amount of time learners are given for pre-task planning, and the impact of planning time on production. We also considered the issue of what children do when given time to plan. We now turn to a discussion of the outcomes of pre-task planning in the literature to date.

1.4. Pre-task planning: fluency

Pre-task planning has been argued to have beneficial effects on fluency ([Foster, 1996](#); [Foster and Skehan, 1996](#); [Skehan and Foster, 1997](#); [Wigglesworth, 1997](#); [Mehnert, 1998](#); [Ortega, 1999](#)) with the effects being more marked on cognitively complex tasks such as

decision-making tasks and ‘difficult’ narratives (Foster, 1996; Foster and Skehan, 1996). Interestingly some researchers have found that when native speakers are given more time to plan, they produce less speech when compared with learners (Foster, 2001). Planners have been found to produce more fluent language than non-planners. Unsurprisingly, when participants are told to focus on meaning rather than form, there are greater effects on fluency.

Differential effects of length of planning time is another area of investigation. For example, Mehnert (1998) and others have found, when comparing 0 min, 1 min, 5 min and 10 min of planning time, that the differences in time were largely non-significant. The greatest effect was found for the no planning vs. planning groups. In other words, giving more planning time did not seem to impact fluency, but giving some planning time as opposed to no planning time did seem to impact fluency.

1.5. Pre-task planning: accuracy

In terms of the effectiveness of pre-task planning on accuracy, research has indicated mixed results (Ellis, 2005). Effects are likely to be dependent on particular forms and may also be dependent on the developmental levels of the learners studied. Various definitions of accuracy and a lack of comparability among studies may contribute to the mixed results. Accuracy may also be more task dependent than other measures of task-related production (Bygate et al., 2001).

1.6. Pre-task planning: complexity

Positive effects have been shown for pre-task planning and complexity. Results from various studies found that planners produce more complex language than non-planners. Ortega (1997), Mehnert (1998) and others have found more complex language in planners. Mehnert found that 10 min of planning time was necessary for effects on complexity, her other groups (no planning, 1 min and 5 min) performed at the same levels. Foster and Skehan (1996) found individual learner planning was better than collective planning for complexity and Yuan and Ellis (2003) found strategic planning had a positive effect on complexity. Interestingly, whether learners focused on either form or content when planning did not seem to matter in terms of complexity. Ortega (1999, *in press*), in one of the first studies to include an introspective measure of what learners actually do when they plan, found that they paid attention to both content and form. It should be noted that, like accuracy, “complexity” has been operationalized in a number of different ways.

1.7. Connecting interaction research and task research

Task-based research has traditionally been generally closer to classroom concerns than interaction research. Several of the task studies have been situated in classrooms and have used authentic pedagogical tasks. However, despite this connection to pedagogical concerns, task-based research has only relatively recently begun to focus on the relationship between tasks and second language *learning*, as opposed to a focus on the impact of different learner and task features on learners’ immediate *production*. Since interaction research has been focused on exploring learning and since task research has explored production, and is now beginning to raise questions about development (Ellis, 2005), it seems that these two distinct but related lines of research, studies of interaction and studies of

tasks, are beginning to converge with the common goal of better understanding and researching how languages are learned.

1.8. *The current study*

In summary, previous pre-task planning research has mostly involved studies of fluency, accuracy and complexity, and has not considered the provision and use of corrective feedback which are helpful measures of developmental utility. In addition, such research has tended to focus on adult learners. There has been little research designed to investigate the impact of planning on children's production in authentic L2 classrooms. To address these issues, we investigated the following question: "what is the relationship between pre-task planning and linguistic production in children's ESL classrooms?" We examined production in terms of feedback and modified output, based on the interaction literature, and fluency, complexity, and accuracy based on the task literature. We investigated three different amounts of pre-planning time; 0 min, 2 min, and 5 min.

2. Methods

2.1. *Participants*

Participants were 42 child ESL learners from four intact ESL classrooms in Australia. These are intensive English classes for children with insufficient English to operate in a mainstream context. All participants were early intermediate level learners in the first twelve months of learning English.

There were two intact junior primary classes with children aged 5–7 years, and two intact senior primary classes with children aged 11–12 years. The children came from a number of different L1 backgrounds as shown in Table 1.

2.2. *Materials*

The materials used in this study were developed by the researchers in collaboration with the teachers, based on activities that were typical of the children's daily classroom instructional routines. The process of materials development involved group discussions with teachers and full day classroom observations. Prototype tasks developed by the researchers, based on the classroom materials and language in use at the time, were then modified

Table 1
L1 of participants

L1 background	5–7 years	11–12 years
African (language unspecified)	6	9
Arabic (language unspecified)		1
Chinese	1	1
French	1	
Indian (language unspecified)	1	
Russian	3	
Serbo-Croatian	6	5
Vietnamese	4	4
Total	22	20

according to the teachers’ feedback at follow-up meetings. All tasks were piloted to ensure comparability in terms of the language they elicited. The language included mathematical terms related to shape and number, common vocabulary related to animals, body parts and colours as well as topic theme words. The themes of the tasks were designed to reinforce those topics covered in the classrooms concerned. For instance, animals and their body parts were associated with the forthcoming “zoo” excursions, the athletics task was related to the forthcoming school athletics carnival, and the shape activity in a street scene related to both maths and language content covered in class.

The three tasks were two-way, information gap activities requiring participants to describe the details of pictures about animals or people, and to compare them with a partner in order to fill in an information grid. The objects featured in the pictures were familiar to the children. Fig. 1 shows the experimental procedure. The tasks were counter-balanced in the 2 min and 5 min conditions, but not in the 0 min condition, due to constraints relating to what the teachers felt was appropriate and feasible for their classroom contexts. This is discussed further in the limitations section below. A post hoc analysis (Friedman) of amount and type of speech revealed no significant differences according to task type.

2.3. Procedure

2.3.1. Data collection

Data were collected from 21 dyads, 5 dyads ($n = 10$) from each of the four classes, with an additional dyad of 5–7-year-olds. The children carried out the tasks in pairs, working with the same partner for each task, as part of their regular classroom instruction and daily activities over 3 weeks. Children were given either 0 min, 2 min or 5 min of strategic pre-task planning time. Children listened to teachers’ description of the task and were told that they would receive some time to plan and they should think about what they would say when they carried out the task. An example of the teachers’ instructions for planning (Example 5) and for one of the tasks (Example 6) is provided below. Instructions were observed, audio-taped and reviewed, to ensure the teachers followed the models that were discussed in the teacher-researcher planning meetings.

Example 5. Instructions for planning

Teacher: Have some quiet time. Look and think about what you are going to say. You get 5 min. You have to look at what’s in your picture. You have to think about what you are going to say.

	A: Picture Description	B: Picture Description	C: Picture Description
6-7 yrs	No planning	2 mins	5 mins
		5 mins	2 mins
11-12 yrs	No planning	2 mins	5 mins
		5 mins	2 mins

Fig. 1. Experimental design for age, group and task.

Example 6. Task instructions provided by teacher (T)

T: And today girls and boys you're going to be doing activities all by yourselves I'm not going to help you at all

S1: What is this?

T: This is a box and

S2: left and right

T: Yes it has some things on it but say left and right

Ss: left and right

T: You're each going to have a grid

S1: What's grid mean?

T: Grid means a set of boxes that go this way and this way OK one is Grid A this is Grid A these animals and this one is Grid B and you can see that there are animals and colors on the grid but the animals are in different places and I'll also give you a little set of cards. You need to make your grids look the same by asking your partner where to put the cards and you have to take turns in asking the questions ...

T: So you're going to have a barrier in between. [Name] so that you can't look at the other person's paper until you've finished. So you're going to tell them to put something on the left or right or in the middle

R: Or on the color

T: Or on the color so you could use the colors so you're going to end up with your grid looking the same as your partner's grid by putting the animals in the right places. So do you understand what you'll have to do?

Ss: Yes

The children planned individually, and were given a pencil and paper to plan with, although not all of them wrote anything down. They retained the paper while carrying out the task. The 0 min planning time group carried the task out with no planning time, immediately after the task was distributed by the teacher.

2.4. Operationalizations

We devised a coding scheme based on both constructs used for interaction research and constructs used for task-based research, thus extending the agenda of typical task studies and allowing this task-planning study to be more comparable with studies carried out in both areas.

2.4.1. Interaction

The interaction data were coded as follows:

- (1) Each participant's turn was coded as TL (target like) or NTL (non-target like),
- (2) If NTL, turns were coded based on whether feedback was provided or not,
- (3) If feedback was provided, it was categorized as: recast, clarification request, confirmation check, or explicit correction,
- (4) Turns were coded according to whether or not there was an opportunity or no opportunity to use feedback,
- (5) Turns were coded as modified output (more TL or not) or no modified output.

Category	Definition	Example
<i>Target like utterance</i>	Conforms to English morphosyntax, phonology and lexis	A: do you have a cow eating grass?
<i>Non-target like utterance</i>	Utterance contains non-TL morphosyntax, phonology or lexis	A: how many jumping you can see boys?
<i>TYPE OF FEEDBACK PROVIDED</i>		
<i>Recast</i>	Following a nonTL utterance, the interactor's response reformulates the utterance in a target like way while retaining the central meaning	A: Say does he has wool? B: Does he have wool?
<i>Clarification request</i>	A request to make the utterance more understandable	A: does an horse has trunks? B: what?
<i>Confirmation check</i>	The interlocutor seems to understand the meaning of the previous utterance and seeks confirmation	A: how many how many boy jumping? B: boy jumping? A: yeah boy jumping
<i>Explicit correction</i>		A: I said do the camen have wool B: no camen camel
<i>USE OF FEEDBACK</i>		
<i>Opportunity to use feedback</i>		A: sit sit on the carring B: carrot A: carrot
<i>No opportunity to use feedback</i>		A: how many reptiles are there? [means Rectangles] B: rectangle...rectangle...1, 2, 3, 4, 5, 6, 7, 8, 9, 10...10...10 A: 10 only
<i>Modified output</i>		A: um how many ocsago can you find? B: octagon A: octagon can you find
<i>No modified output</i>		A: does your bear have a stick on your hand B: huh? A: does your bear have a stick on your hand

Fig. 2. Operationalizations.

FLUENCY

<i>Reformulation</i>	Self-repair by the student immediately following an initial non-target like utterance within the same turn	“Does a elephant has legs? Ah, ah does a elephant have a leg, legs?”
<i>False start</i>	An incomplete utterance followed by an alternative delivery of the meaning originally intended	“Does does= what’s this?”
<i>C-unit</i>	An independent clause or an isolated phrase without a verb, which has communicative value	“How many girls?” (1 c-unit) “I know (.) come on” (2 c-units) “That girl want to dance” (1 c-unit)

ACCURACY

Percentage of target-like c-units	“Like that” “ You have a horse”
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COMPLEXITY

Lexical complexity	The ratio of lexical verbs per c-unit	“Henry please <u>te</u> ll me how many girls you can <u>se</u> e over there?” (2 lexical verbs/ 1 c-unit)
Grammatical complexity	Number of tensed or untensed verbs per c-unit	“Don’t worry don’t worry 2 girl / OK my your your question” (1 s-node/ 2 c-units)

Fig. 2 (continued)

Definitions and examples of coding are seen in Fig. 2. This coding system follows that used in a number of prior interaction studies including Oliver (2000), Mackey et al. (2003) and Braidi (2002).

2.4.2. Fluency, accuracy and complexity

Fluency was coded according to the number of reformulations and false starts per turn. The number of words per turn was also used as an indication of quantity of output. Accuracy was coded in terms of percentage of target like c-units (communication units). Complexity was coded by amount of subordination or coordination, and percentage of words functioning as lexical verbs. This follows systems commonly used in the planning literature (for discussions of coding, see Ellis, 2003; Ellis and Barkhuizen,

2005; Mackey and Gass, 2005). We found that prior fluency measures in particular were not suitable for use with young children, a point to which we return below. We excluded repetition, and combined reformulation and false starts as indicators of “fluency,” following Freed et al. (2004). Because of the nature of the data, which were characterized by frequent short turns and few fluency-related pauses, temporal measures were also not used. In this study, only the final c-unit was counted when repetition or self-repair existed.

The explanation for each category appears in Fig. 2. Inter-rater reliability for coding of interaction was 99%, obtained through a process of training and coding socialization, where all disagreements were carefully discussed and resolved, on one third of the data set. This was considered sufficiently high for the remainder of the dataset to be coded by one person. Pearson correlation for IRR for categories of fluency, accuracy and complexity, calculated on coding of 14% of the data by two raters ranged from .95 to .99. As fluency data were coded by one rater, percentage agreement for intra-rater reliability was also calculated on 14% of the data, coded three months apart. This ranged from 96% to 100% on all categories.

2.5. Age

In this paper we do not address the question of differences according to age group, which is a focus of our ongoing research. However, we recognize this as an important issue. Generally, trends were consistent across the two age groups represented, and thus it was clearer to report the two together. Where results differed significantly according to age, this is reported within the relevant section.

3. Results

The research question addressed was: What is the relationship between pre-task planning and task-based linguistic production?

Chi square tests were used to analyze the categorical interaction data and Friedman tests, which are non-parametric equivalents of ANOVAs, were used for the fluency, accuracy and complexity data. The alpha level was set at .016 after Bonferroni correction.

3.1. Interaction data

As shown in Table 2, which presents proportional data, children produced comparatively fewer non-target like utterances when given 2 min of planning time (23%) than when they are given 5 min (32%) or no planning time at all (47%). Chi square analysis indicated that the difference was significant ($\chi^2(2, n = 6553) = 297.30, p < 0.001$). Additionally, there was a significantly higher proportion of NTL turns for older learners than for younger when given planning time (whether 2 min or 5 min). Since corrective feedback can only occur in response to non-target like production, no planning time and 5 min of planning time were the most conducive for the provision of negative feedback. However, the provision of feedback was actually greater with no planning time (23%) and 2 min planning time (21%), than when 5 min (12%) of planning time was given. Again, the differences in the amount of feedback provided were significant ($\chi^2(2, n = 2199) = 45.81, p < 0.001$). Turning to the important question of the use of

Table 2

Provision and use of feedback under 0 min, 2 min and 5 min of planning time

	0 min	2 min	5 min
Non-target like turns (%)	47 (972/2048)	23 (577/2480)	32 (650/2025)
Feedback ^a (%)	23 (168/553)	21 (102/577)	12 (97/804)
Opportunities to use feedback (%)	89 (149/168)	80 (82/102)	79 (77/97)
Use of feedback ^b (%)	22 (33/149)	31 (26/82)	25 (19/77)

^a Feedback in response to non-target like turns.^b Use of feedback when opportunity for use is provided.

feedback in modified output, while there was a pattern of decreasing opportunity to use feedback with increasing planning time, these differences were not significant. And again, when there was an opportunity to use feedback, 2 min planning time resulted in the highest proportion of use (31%), followed by 5 min of planning time (25%) and no planning time (22%) and again, this pattern was not significant. In summary then, the provision of corrective feedback was greater without planning time. While space constraints do not allow us to present the results for each of the dyads in the various task conditions, Table 3 presents the means and standard deviations for the interaction data.

3.2. Fluency, accuracy and complexity

3.2.1. Number of words per turn

While number of words per turn is a measure of amount of data rather than fluency, it can be seen as bridging the gap between interaction data and fluency, accuracy and complexity data. As shown in Table 4, the results indicated that there was a significant difference between the no planning time condition and the 2 min planning condition. There was no difference between no planning and the 5 min planning condition. The no planning time condition led to learners producing more words per turn ($\chi^2(2, n = 33) = 13.35, p < .001$). However, for the older group of children itself, there was no significant difference for words per turn according to planning time.

Table 5 presents the results for measures of fluency, accuracy and complexity. Each is discussed in turn below. Unlike the interaction data, these measures are based on c-units, rather than turns.

Table 3

Provision and use of feedback under three conditions

	0 min		2 min		5 min	
	Mean	SD	Mean	SD	Mean	SD
Non-target like turns	24.30	11.67	15.00	9.7	15.24	7.37
Feedback ^a	4.42	3.57	2.00	2.43	3.13	1.98
Opportunities to use feedback	4.03	3.29	2.00	1.93	2.57	1.41
Use of feedback ^b	1.25	.58	1.00	.29	1.17	.41

^a Feedback in response to non-target like turns.^b Use of feedback when opportunity for use is provided.

Table 4

Number of words per turn in different planning time conditions

	No planning time		2 min planning time		5 min planning time	
	Mean	SD	Mean	SD	Mean	SD
Number of words per turn	5.07	1.70	3.92	1.24	4.54	1.33

Table 5

Comparison of fluency, accuracy, complexity among different planning time conditions

	No planning time		2 min planning time		5 min planning time	
	Mean	SD	Mean	SD	Mean	SD
Fluency	.97	.06	.98	.06	.97	.05
Accuracy	.68	.12	.71	.16	.74	.13
Grammatical complexity	.75	.26	.62	.28	.92	.53
Lexical complexity	.80	.17	.79	.14	.76	.20

Fluency values represent the ratio of c-units without disfluencies. Accuracy values represent the percentage of target like c-units. Complexity values represent the amount of subordination or coordination within c-units (s-nodes per c-unit), and the ratio of lexical verbs per c-unit.

3.2.2. Fluency

The means for fluency differ only slightly from each other and were consistently high across the three planning conditions. That is, children spoke with few reformulations and false starts regardless of opportunity for planning.

3.2.3. Accuracy

Although there was a pattern of children's production being slightly more accurate when given more time to plan, there were no significant differences.

3.2.4. Complexity

Children's speech was significantly more grammatically complex after 5 min planning, compared to no planning or 2 min planning ($\chi^2(2, n = 33) = .049, p < .016$). The relationship between planning time and complexity differed according to age. The speech of the younger children (5–7-year-olds) was significantly more grammatically complex without planning time ($\chi^2(2, n = 17) = .15.313, p < .001$). Differences for lexical complexity according to planning time were non-significant. Standard deviation suggests great individual variation between learners.

4. Discussion

4.1. Summary of results

The results show that in terms of interaction, the children's provision of feedback to each other was greater when they did not have any time to plan (when they provided each other with feedback 23% of the time) or when they had a short amount of planning time (21%). When 5 min of planning time was given, they only provided feedback to each other 12% of the time. Children produced more speech overall (measured as words per turn)

when they did not plan. In terms of fluency and accuracy, there were no significant differences according to planning time. Children's speech was significantly more complex after 5 min of planning, compared to no planning or 2 min planning. However, as we will discuss below, this increase in complexity had other associated costs. In general then, it seems that providing children with planning time did not necessarily result in more learning opportunities for the children, at least in terms of feedback provision and use, and fluency and accuracy gains.

4.2. *Interaction data*

It is interesting to find that when children had less planning time, they provided more feedback. However, their use of feedback in the next turn did not differ significantly according to whether or not they had planning time. When the children were given the opportunity to plan, they became focused on what they themselves had to do linguistically both before and during the task, and seemed less interested in the production of their partner. They focused on producing their planned utterances, often using the exact question forms and language that they had rehearsed. For example, they often wanted to produce all their planned forms in one turn without too much regard for their interlocutors' reactions or responses.

Interestingly, the results for use of feedback overall in this classroom study were similar to previous research on children interacting in experimental conditions (Oliver, 1995, 2000; Mackey et al., 2003). As Gass et al. (2005), have pointed out, there may be fewer differences than researchers have presumed in classrooms as opposed to laboratory settings. Although one researcher has suggested that interactional feedback is provided and used more in laboratories than classrooms (Foster, 1998), the results from the current research suggest, like those of Gass et al. (2005), that the use of feedback in classrooms is comparable to that of laboratories.

4.3. *Amount of speech*

More words per turn were produced with less time for planning. This is comparable to research findings in respect of native speakers by for example, Foster (2001), who reported that adult native speakers spoke less after planning than before planning. These children behaved the same way. One reason for this may be that when children did not have any planning time, they negotiated the task more. An example of this is shown below from a pair of 6-year-olds beginning their task, without planning time. As can be seen here, longer turns result from negotiating the task itself (lines 1–13), rather than merely carrying it out (lines 14–17). This negotiation can also involve relatively complex language, as we discuss below.

Example 7. No planning time

1. A: Now you question me
2. B: Where to put the lizard
3. A: What
4. B: Where to put the lizard
5. A: No you need to tell me put the

6. B: Lizard in the right
7. A: No because the lizard I got it you need to do tell me what you can see tell me put the put the bear in the left
8. B: Where to put the bear on the left
9. A: Bear put the the giraffe on the right
10. B: What the hell can't do it we're not to do it it's hard
11. A: Because you don't know where in the left
12. B: Left
13. A: But you don't know because on left there's three box so you don't know where the box which box
14. B: What color
15. A: on the white
16. B: On the white?
17. A: No no on the green

4.4. Fluency

Similar to the results reported by [Mehnert \(1998\)](#), the current data suggest that fluency was not impacted by the amount of planning time. The tasks used in this study typically elicited short turns with a mean length of 4.51 words per turn and with no significant differences for planning time. The children's turns were short without significant pauses or hesitations, and turn taking was often controlled explicitly, for example "now it's your turn" "hey it's my turn." Perhaps for this reason, fluency, as measured by absence of reformulations and restarts, was consistent across planning conditions. Also, as noted earlier in the section on coding, we found that some of the components of coding fluency commonly used in previous studies were inappropriate for use with children; in particular the use of repetition. The children in the current study frequently used repetition as part of their playful use of language as well as their regulation of themselves and others, for example, they repeated the name of an object (e.g. "octagon") as they searched for it in the picture, while also enjoying the sound of it. Language play is clearly a feature of children's speech ([Cekaite and Aronson, 2005](#); [Cook, 2000](#)) and this was reflected in the data. Examples are provided in [Fig. 3](#).

Of course, it is always possible that different kinds of planning would have a different impact on fluency as noted by [Foster and Skehan \(1996\)](#). We are addressing these questions in our ongoing work.

4.5. Accuracy

The findings are comparable to the adult literature in terms of accuracy, where results are mixed and researchers have often not found clear, unambiguous planning effects. In terms of morpho-syntactic units, we found that errors tended to involve articles, plurals, and question forms. In this case, planning did not orient learners' attention to form, but rather to how they would do the task and what they would say generally in terms of content. Thus it is not surprising that the learners' production did not change greatly, regardless of how long they received to plan. Additionally as noted earlier, it is possible that the child's age affects the degree to which they might be oriented to form.

Examples		
Language play/		
Teasing:	B:	Red
	A:	Xx there's no red allowed to be on that
	B:	Gonna tell the teacher
	A:	Will you stop it... Will you stop it... Will you stop it
		[repeating in a funny voice to tape recorder] right no::w
Language play/		
Directing:	B:	The bear is in the white [color]
	A:	There I show you OK OK below below the middle middle middle middle middle middle middle like that this are left this are right in the middle

Fig. 3. Language play examples.

4.6. Complexity

Similar to research findings reported for adults, particularly for the older children, the longest amount of planning time resulted in significantly more complexity in the current study (e.g. Crookes, 1989; Foster and Skehan, 1996; Ortega, 1999). Complexity relates to learning in that more complex patterns could be argued to demonstrate a higher level of linguistic competence. This pattern is shown in Example 8, where after 5 min of planning time, learner A first produces the complex question, “how many boys do you see jumping?” which both he and, eventually his partner use with some variation throughout the task.

Example 8. 5 min planning

- A: How many boys you see jumping?
 B: Jumping or skipping?
 A: Jumping
 B: I can see seven boys jumping. How many girls do you see jumping?
 A: Two girls (later turn)
 B: How many girls do you see are flying?
 A: Two girls. How many boys do you see playing football?
 B: Three boys. How many girls do you see when they kick XX?

The two boys appear to provide models for each other through repetitions of complex questions they ask, a process discussed in interaction research first as clustering (Mackey, 1999), and then as priming (McDonough, 2006). The finding that the younger children produced more complex speech without planning time may be explained with reference to Example 7. For these children, the language associated with negotiating the task itself appears to be more complex than the language elicited by simply performing the task.

For other learners, as Example 8 suggests, learners' language was more complex when they had time to plan. However, it is possible that 5 min of planning time might be too long, and serve to distract young children. In the current study, when given 5 min to plan, the children often seemed to go off task during planning time, and classroom management became an issue. The problem continued once they began the task with a partner, as seen in Example 9. Here the two 6 year old students become frustrated with each other and tired of the task, having already looked at it for 5 min before beginning the task itself.

Example 9. Task interaction after 5 min planning

- A: why are you looking at me?
 B: [laughs]
 A: its not funny
 B: I cant stop! [laughs]
 A: [cross] stop laughing always
 B: he he he
 A: stop laughing I'm bored [angrily]
 B: he he [fake laugh – teasing]
 A: stop laughing [name] [cross] its not funny! I'm bored of you XX
 B: [fake laugh]
 A: stop it! Stop it! I hate stop it! I don't like it! Stop it [name] I'm telling

It is important to point out that the children's teachers also reported that they thought 5 min was too long for children to plan. This confirmed our observations and analysis that many of the children were not on task by the end of their 5 min. Therefore, this classroom-based study suggests that in spite of complexity being increased by planning time, other considerations might preclude its use. As seen here, the usefulness of planning time may vary according to age, in addition to factors related to the task itself. In any case, these findings also raise the question of what children are actually doing with this planning time.

4.7. *Children's use of planning time*

In the 2 min planning sessions, children often rehearsed the kinds of questions they were going to ask each other, writing the questions down, as shown in this example from the writing of one child:

Example 10. "Haw meny boys are runing. Haw meny girs are damping."

When they had more time, in the 5 min planning condition, they sometimes rehearsed questions as with the 2 min tasks, but they also seemed to practice an order as we see in Omar's plans in Example 11:

Example 11. “I am going to say what is the snake doing, but first I am going to say do you have snake green snake and that I am going to say.”

Children also called out to one another “how do you spell . . .” “what’s this . . .” The children seemed to combine preparing for the task with rehearsing for the task and to do this in more depth with more time.

5. Limitations and future research

Since the tasks employed in this study were counter-balanced for the 2- and 5-min conditions, but not for the 0 min condition, in terms of the language the tasks elicited, the lack of counterbalancing might have had some sort of impact on the language the participants produced in the 0 min planning time condition (even though our post hoc analysis, reported earlier, suggests this was not the case). The 0 min condition task was not counter-balanced because of the teachers’ concerns, as outlined earlier in this paper. In the current study, the lack of counter-balancing was seen as a necessary tradeoff for the benefits of being able to do research in authentic classrooms. However, clearly, future research should take this issue into account.

This study was carried out in an ESL context, using one type of task (a two-way, picture description, information gap task), which limits the generalizability of the findings of this study. Other L2 learning contexts such as EFL classroom contexts, other languages, and a wider variety of task types needs to be considered in future research.

This is a study of production and not learning. Use of corrective feedback, sometimes known as uptake, is arguably a measure of some kind of language change or awareness. Similar arguments have been made in relation to increases in language complexity, production, or deployment of forms. However, neither should not be equated with linguistic development, and it would be useful for subsequent research to examine planning, tasks, interaction and learning outcomes with children.

We conclude this paper by pointing out that the current study examined children aged from 5 to 12 years. The data suggested to us that the age of the child might also be a worthwhile issue when looking at planning and one we are examining in our ongoing research.

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