“TU ES DANS LA LUNE”*: UNDERSTANDING IDIOMS IN FRENCH-SPEAKING CHILDREN AND ADULTS

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Abstract

From a psychological point of view, this study looks at children's and adult’s comprehension of idiomatic expressions, and most particularly at the underlying cognitive processes needed for comprehension. Idiomatic expressions are expressions where there is a considerable difference between what is said (literal interpretation) and what is meant (idiomatic interpretation). In other words, the meaning of an idiomatic expression depends largely on a convention that relates a given linguistic form to a given meaning. Conducted in this framework, the present study was aimed at determining the role of contextual characteristics and the linguistic convention in the comprehension of idiomatic expressions by 6- and 9-year-old children, and by adults. The subject's task was to complete stories. Twelve stories were presented in comic strip format by the experimenter, who told the story in the first three frames and then instructed the subject to choose one of the two possible endings. Two features of the stories were varied: The utterance production context (idiomatic vs. literal) and the idiom familiarity level (familiar vs. unfamiliar). Regardless of age, the context had a substantial impact on idiom comprehension: This reinforces the idea of the necessity of taking the context and the extra-linguistic conventions into account in order to explain language functioning, not only in children but also in adults. The role of the linguistic convention began at the age of 9 and was particularly strong in adults: They appear to reconstruct the communication situation solely on the basis of the linguistic convention. The role of familiarity also appeared in the 9-year-olds and continued on into adulthood. These results suggest that the period of adolescence is crucial for the development of certain pragmatic aspects of language.

Keywords: Pragmatics, Idioms, Understanding, Children, French Language

1. Introduction

From a psychological point of view, the purpose of this article was to study French-speaking children's and adult’s comprehension of idiomatic expressions, and most particularly in view of the underlying cognitive processes needed for comprehension. The

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1 “Your head’s in the clouds”

2 Part of this paper was presented at the 7th International Pragmatics Conference, Budapest, 9-14 July 2000.

3 Special thanks are extended to Vivian Waltz and Sylvie Stonehouse for translating this paper.
respective roles of the context and the linguistic convention were examined. What are idiomatic expressions? How are they defined? Why are idiomatic forms interesting for pragmatic theories? How do children and adults understand idioms?

The easiest meanings to grasp are the ones where the speaker's statement means exactly and literally what it says. But everyone knows that communication situations are not always so straightforward. Recent studies on irony and sarcasm (Colston and O'Brien 2000; Toplak and Katz 2000), metaphors (Giora and Fein 1999; Glucksberg 2001; Steinhart and Kittay 1998; - see also Goatly 1994; Vincente 1992), and idiomatic expressions (Cowie 1998; Keysar and Bly 1999; Titone and Connine 1999) are a testimony to the current interest in non-literal uses of language. If an English speaker says (1) or a French speaker says (2), most listeners will probably assume the speaker means something else, namely, that it is raining hard.

(1) "It's raining cats and dogs"
(2) "Il pleut des cordes" (It's raining ropes)

The key feature is the fact that the meaning that follows from the words differs completely from the meaning transmitted in context. The literal meaning and the non-literal meaning (or idiomatic meaning) are linked by a linguistic convention that is specific to the language and/or the culture. In the English example (1) mentioned above, the linguistic convention is what makes the connection between "cats and dogs" and rain. In the French example (2), the linguistic convention is what makes the connection between "cordes" (ropes) and rain. Of course, this convention may vary in degree of transparency, i.e., the idiomatic meaning may be more or less linked to the literal one. The issue here is to see to what extent the hearer construes the idiomatic meaning from the literal meaning: An example of low transparency (opacity) "to kick the bucket", and an example of high transparency "to skate on thin ice" (see Gibbs 1987; Keysar and Bly 1999; Nippold and Taylor 1995; Nippold and Rudzinsky 1993). However, the discrepancy between what is said and what is meant remains the essential characteristic of idiomatic expressions, even the most transparent ones. In this respect, idiomatic expressions have their own specific usage. Hence, they cannot be processed solely via a linguistic analysis of the utterance, and necessarily also depend on knowledge of the corresponding linguistic convention.

Although, by definition, idioms are frozen, this characteristic may only apply to a certain extent, depending on the idiom. Several authors have addressed the question of whether all idioms are alike or whether they have some differentiating features. One question asked is whether all idioms are ambiguous: Do some idioms have a literal meaning in addition to the idiomatic one (an example of distinct literal and idiomatic meaning “to break the ice”, and an example of no literal meaning “to take heart”)? (see Mueller and Gibbs 1987). And in the first case, what is the frequency of each meaning when the idiomatic expression is produced? Other features of idioms include syntactic flexibility, e.g., whether or not an adjective can be inserted in the expression without losing its idiomatic interpretation (Gibbs and Gonzales 1985; Gibbs and Nayak 1989), lexical flexibility, e.g., whether or not a synonym can be substituted for one of the words in the idiom (Gibbs, Nayak, Bolton, and Keppel 1989), and familiarity level (Cronk and Schweigert 1992; Cronk, Lima, and Schweigert 1993).
But the important point is that the study of idiomatic forms should allow us to determine the respective roles of the linguistic convention and the context in language comprehension. The use of idioms is a highly interesting linguistic phenomenon from the psychological standpoint because it provides the ideal material for operationalizing the difference between what is said and what is meant. In this respect, idioms present a theoretical challenge to authors interested in the social uses of language, both in its functioning and acquisition (Gibbs and Moise 1997; Tomasello 2000; Verschueren, Östman, and Blommaert 1995; Verschueren 1999).

Previous developmental research on this topic has dealt with native speakers of English or Italian. The studies have mainly focused on the effects of comprehension of the context, idiom familiarity, and idiom transparency, without really raising the question of the role of the context versus the linguistic convention. They have shown that while context has little or no effect in children under 6 (Abkarian, Jones, and West 1992), it starts to play an essential role in the comprehension of idiomatic expressions by the age of 6 or 7 (Ackerman 1982; Cacciari and Levorato 1989; Gibbs 1987, 1991; Levorato and Cacciari 1992, 1995, 1999) and in adolescents (Nippold and Martin 1989; Nippold and Rudzinski 1993; Nippold and Taylor 1995; Nippold, Taylor, and Baker 1996; Spector 1996). In contrast, the performance of adults is not context-dependent (Ackerman 1982; Cacciari and Levorato 1989). Other results (Leverato and Cacciari 1999) concur: Younger children (7 years old) are more context-dependent than older children (9 years old). Analyzing the results of these studies from the standpoint of the role of contextual characteristics and linguistic conventions, we can note for the Ackerman (1982) study that 10-year-old children and adults were found to be capable of correctly interpreting idiomatic expressions in a literal context or with no context, a finding which provides clear evidence of the role of linguistic conventions. In Cacciari and Leverato’s (1989, 1992) work, 7- and 9-year-olds made more idiomatic interpretations in the literal-context condition than in the no-context condition (Cacciari and Levorato 1989), and the performance of the 9-year-olds was much less context-dependent than that of the 7-year-olds (Leverato and Cacciari 1992, 1999). As a whole, these results clearly show that the context has an earlier effect than the linguistic convention. The latter starts entering into play at the age of 7 for some (Cacciari and Levorato 1989), and at the age of 10 for others (Ackerman 1982). It seems to be clearly established in adults (Ackerman 1982; Cacciari and Levorato 1989).

Familiarity, which is measured by assessment of use frequency, has also been studied but the results are often contradictory. For some authors (Leverato and Cacciari 1992), familiarity plays a minor role in the comprehension of idiomatic expressions by children: Familiarity is an important cue at age 7 but not at age 9. Other studies (Nippold and Rudzinski 1993; Nippold and Taylor 1995; Nippold, Moran and Schwartz 2001; Nippold, Taylor and Baker 1996; Spector 1996) have found the opposite effect, that familiarity plays a very important role in children and adolescents and increases with age between 8 and 17 years, no matter what task is used.

The previous results only deal with English and Italian. Thus it is necessary (this point is also shared by Hickmann 2001) to complete them with studies in other languages (we are actually working on French) to determine whether the results are related to the idiom features or to the language features.

The best way to determine the role of the context to understand idioms is to work with utterances where both the literal and the idiomatic meaning are really possible
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(Mueller and Gibbs 1987). This type of support also allows to determine the role of the linguistic convention when the context is literal and the hearer interprets the meaning as being idiomatic meaning: i.e. interpret “*être dans la lune*”4 as “not paying attention” in a story where the picture shows a man walking on the moon. In this case, the priority is clearly given to the linguistic convention over the extend, which is not the case for the neutral contexts used in most previous studies.

This study looks at idiom comprehension by French-speaking children ages 6 and 9 and adults. The following three questions were raised.

1. What is the exact role of context in the comprehension of idiomatic expressions by French children and adults? On the basis of earlier developmental studies (Ackerman 1982; Cacciari and Levorato 1989; Levorato and Cacciari 1992, 1999), it can be hypothesized that context will play an important role in children's comprehension of idioms. It would be interesting to compare the results in adults.

2. To understand language, do children and/or adults place priority on the linguistic convention or on the context (the situation of communication)? Do children and/or adults know the linguistic convention relating the literal meaning and the idiomatic meaning? Idiom comprehension does not appear to be based on a simple linguistic analysis of the utterance, but to depend on knowledge of linguistic conventions. Studies on other uses of language (promises) (Bernicot and Laval 1996; Laval and Bernicot 1999) have shown that the text's characteristics start to take effect after age 9, which is later than context, and does so only in certain situations. Linguistic convention can be defined by the link between the literal meaning (text) and the idiomatic meaning. Thus, linguistic convention carries and additional element compared to the text: Additional cognitive processes. Based on these considerations and the difficulty of idiomatic expressions, it is hypothesized that the role of the linguistic convention, will appear much later (after age 9) than the role of the context.

3. What is the role of the familiarity of idioms (measured by assessment of use frequency)? How does this role evolve with age? The first results are incomplete and contradictory. For some authors the role of familiarity is weak (only for 7 years old for Levorato and Cacciari 1992). For others, the degree of familiarity will be more and more important as age increases (see for example Nippold, Moran and Schwartz 2001). Our aim is to determine the role of familiarity in the French language.

2. Method

2.1. Subjects

Thirty-two native French-speaking children participated in the experiment. They were divided into two groups of 16 (8 girls and 8 boys), with mean ages of 6 years 6 months

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4 Idiom expression “*your head’s in the clouds*”; literal meaning of which is “*you are in the moon*” in French.
(range: 6 years 4 months to 7 years 2 months) and 9 years 8 months (range: 9 years 3 months to 10 years 2 months). Hereafter, these two groups will be called the 6-year-olds and the 9-year-olds. An adult group (10 women and 6 men) also participated (mean age: 19 years 6 months).

2.2. Materials

2.2.1. Choosing the idioms

The French idioms used in the experiment were taken from Walt Disney cartoons and books for children. A list of 50 idioms was generated and then pre-tested. Forty-eight adult subjects were asked to assess the familiarity level of the idioms measured by assessment of use frequency. They were given a booklet of idioms, each of which was to be assigned a rating on a four-point scale (1 = very unfamiliar, 2 = unfamiliar, 3 = familiar, 4 = very familiar). Twelve of the idioms were retained for the study, the six assessed to be the most familiar and the six assessed to be the least familiar (see Table 1). Given that only idioms with both meanings (literal and idiomatic) appeared useful for operationalizing the difference between what is said and what is meant, all idioms selected also had a plausible literal meaning. As such, they provided the ideal experimental material for creating contexts that induced an idiomatic or literal interpretation of the expression.

2.2.2. Generating the material

Twelve stories with two main characters were constructed. In all cases, a little girl named Flora was speaking to a little boy named Pablo. A story consisted of four frames, each with a short text. An example is given in Table 2. The pictures in the frames presented realistic situations that were part of a child's daily experiences, and were designed to keep the subject's attention focused on the task. All of the stories had the following four-part structure.

Part 1: Setting. The first frame depicted the two children carrying out a specific activity, e.g., playing, riding bicycles, going for a walk. The text corresponding to Frame 1 described the setting of the story.

Part 2: Context. The text corresponding to Frame 2 was used to manipulate two types of context, an idiomatic context and a literal context. The idiomatic context strongly induced an idiomatic interpretation of the expression, and the literal context strongly induced a literal interpretation of the expression. The reason for manipulating these two types of context was that it would allow us to determine the processes at play in idiom comprehension: We could measure the effect of the linguistic convention, by analyzing the percentage of idiomatic answers given in the literal context. In fact, in this case, the only thing that could allow the subject to choose the picture corresponding to the idiomatic meaning was knowledge of the conventional link between the literal meaning and the non-literal (idiomatic) meaning. In such cases, an idiomatic interpretation of the utterance would
necessarily be indicative of an interpretation based solely on knowledge of the linguistic convention. For example, for the idiom "régler son compte à quelqu'un" (to get even with someone), the subject having just seen a literal context about a supermarket in Frame 2 would choose the picture (Frame 4.1) with the idiomatic meaning "Flora punches Pablo".

Table 1. Familiarity level (idiomatic meaning) of the 12 idioms used. The familiarity score ranged from 1 (very unfamiliar) to 4 (very familiar).

<table>
<thead>
<tr>
<th>Idiom Mean</th>
<th>Idiom</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.625</td>
<td>Régler son compte à quelqu'un (to get even with someone)</td>
<td>Familiar Idioms</td>
</tr>
<tr>
<td>3.416</td>
<td>Passer l'éponge (to wipe the slate clean)</td>
<td></td>
</tr>
<tr>
<td>3.375</td>
<td>Être dans la lune (to have one's head in the clouds)</td>
<td></td>
</tr>
<tr>
<td>3.333</td>
<td>Perdre les pédales (to be out to lunch)</td>
<td></td>
</tr>
<tr>
<td>3.083</td>
<td>Mener quelqu'un en bateau (to take someone for a ride)</td>
<td></td>
</tr>
<tr>
<td>3.000</td>
<td>Vendre la mèche (to let the cat out of the bag)</td>
<td></td>
</tr>
<tr>
<td>1.583</td>
<td>Avoir une araignée dans le plafond (to have bats in the belfry)</td>
<td>Unfamiliar Idioms</td>
</tr>
<tr>
<td>1.875</td>
<td>Décrocher la timbale (to hit the jackpot)</td>
<td></td>
</tr>
<tr>
<td>1.916</td>
<td>Lever l'ancre (to take off)</td>
<td></td>
</tr>
<tr>
<td>2.083</td>
<td>Tomber sur un os (to run into a snag)</td>
<td></td>
</tr>
<tr>
<td>2.083</td>
<td>Voir 36 chandelles (to see stars)</td>
<td></td>
</tr>
<tr>
<td>2.125</td>
<td>Manger les pissenlits par la racine (to be pushing up the daisies)</td>
<td></td>
</tr>
</tbody>
</table>
Part 3: Utterance. The third frame showed a close-up of the speaker (Flora). Two types of utterances were used, ones containing a so-called familiar idiom, such as "être dans la lune" (to have one's head in the clouds), and ones containing a so-called unfamiliar idiom, such as "décrocher la timbale" (to hit the jackpot).

Part 4: Ending. The fourth frame ended the story in one of two possible ways. Frame 4.1 depicted the idiomatic meaning of the expression, and the corresponding text was a paraphrase of that meaning; Frame 4.2 depicted the literal meaning of the expression, and the corresponding text paraphrased that meaning.

2.3. Procedure

The subject's task was to complete the stories. The stories were presented in comic strip format by the experimenter, who told the story in the first three frames (shown on the line from left to right) and then instructed the subject to choose one of the two possible endings (shown from left to right on the bottom line). The subject had to put the picture he/she had chosen on the first line in a blank frame. Testing was individual. For the children, the task was entirely oral. For the adults, the answers were given in writing but the rest of the procedure was strictly the same as with the children. In all, twelve stories were proposed to each subject. The presentation order of the stories varied randomly across subjects, and the order of the two answer choices varied randomly across stories.

3. Coding the data

Again, the subjects' task was to complete each story by choosing an ending, either an idiomatic answer or a literal answer. Idiomatic answers were the ones where the paraphrasing in the chosen frame expressed the idiomatic meaning of the expression. In the example in Table 2, the idiomatic answer was Frame 4.1, "Pablo flies into the haystack because he wasn't looking where he was going". Literal answers were the ones where the paraphrasing in the chosen frame expressed the literal meaning of the expression. In the example in Table 2, the literal answer was Frame 4.2, "Pablo is dressed like an astronaut and is walking on the moon."

Given the aims of this study, only the results for the idiomatic answers were analyzed.

4. Results

Figure 1 shows the mean idiomatic answer rate, for each age, production context, and utterance familiarity level. This rate was calculated with respect to the total number of possible answers in each experimental condition. The idiomatic answers were analyzed using an ANOVA. The dependent variable "number of idiomatic answers" was analyzed in a three-factor analysis: Age (3) x type of context (2) x familiarity level (2). Pairwise comparisons were also used. The main results can be described as follows.
Table 2. Story construction scheme (familiar idiom in idiomatic context)

Familiar idiom in idiomatic context, familiar idiom in literal context, unfamiliar idiom in idiomatic context and unfamiliar idiom in literal context)

<table>
<thead>
<tr>
<th>PART</th>
<th>PICTURE</th>
<th>TEXT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRAME 1: setting</td>
<td><img src="image1.png" alt="Setting Picture" /></td>
<td>Pablo and Flora are on holidays at the country. It is a hot summer day. They decide to go biking.</td>
</tr>
<tr>
<td>FRAME 2: context</td>
<td><img src="image2.png" alt="Context Picture" /></td>
<td>Pablo is looking up in the air and whistling. He’s heading for a haystack. Flora sees the haystack and puts on the brakes. But Pablo doesn’t put on the brakes! He’s going to have an accident.</td>
</tr>
<tr>
<td>FRAME 3: utterance</td>
<td><img src="image3.png" alt="Utterance Picture" /></td>
<td>Flora says to Pablo: <em>Tu es dans la lune!</em> (your head’s in the clouds)</td>
</tr>
<tr>
<td>FRAME 4.1: ending (idiomatic meaning)</td>
<td><img src="image4.png" alt="Ending Picture" /></td>
<td>Pablo flies into the haystack, because he wasn’t looking where he was going.</td>
</tr>
<tr>
<td>FRAME 4.2: ending (literal meaning)</td>
<td><img src="image5.png" alt="Ending Picture" /></td>
<td>Pablo is dressed like an astronaut and is walking on the moon.</td>
</tr>
</tbody>
</table>
The effect of age
The analysis yielded a significant effect of age (F(2, 45) = 14.38, p < .0001): The idiomatic answers increased with age. As a whole, adults gave more idiomatic answers than did 6-year-olds (F(1, 30) = 41.72, p < .0001) and 9-year-olds (F(1, 30) = 11.52, p < .001).

The effect of context
The effect of utterance production context was significant (F(1, 45) = 306.49, p < .0001): The number of idiomatic answers was more important in idiomatic context than in the literal context.

At all ages considered, idiomatic contexts triggered more idiomatic answers than literal contexts did (F(1, 15) = 106.66, p < .0001; F(1, 15) = 76.03, p < .0001; and F(1, 15) = 159.68, p < .0001; for the three ages, respectively). The comparison between the idiomatic and literal contexts showed that the effect of context was very strong both in children and in adults.

The effect of the linguistic convention was assessed by analyzing the percentage of idiomatic answers in the literal context, since in that case, the only thing that enabled the subject to choose the picture corresponding to the idiomatic meaning was knowledge of the conventional link between the literal and idiomatic meanings. In the literal context, adults gave more idiomatic answers than did 6-year-olds (F(1, 30) = 19.25, p < .0001) and 9-year-olds (F(1, 30) = 9.27, p < .004). Thus, in our study, the effect of linguistic convention started to show up after the age of 9 in the children, and was clearly established in the adult group.

The effect of familiarity
The analysis yielded a significant effect of idiom familiarity (F(1, 45) = 29.49, p < .0001): The number of idiomatic answers was higher with familiar idioms than with unfamiliar idioms.

Interactions between age, context and familiarity
The ANOVA showed a significant interaction between age and idiom familiarity (F(2, 45) = 3.78, p < .03). No familiarity effect was found at the age of 6. In contrast, 9-year-olds gave more idiomatic answers than unfamiliar ones (F(1, 15) = 4.62, p < .048). The same result (with stronger effects) was obtained for the adults (F(1, 15) = 25.82, p < .0001). The effect of familiarity increased with age.

The analysis yielded also a significant interaction between the production context and idiom familiarity (F(1, 45) = 4.47, p < .04). The effect of idiom familiarity was stronger in literal context than in idiomatic context.

5. Discussion
The study of idiom comprehension by children and adults is theoretically relevant to the broader study of the role of the communication situation in language acquisition and functioning. Again, the procedure used here made it possible to determine the processes at play in idiom comprehension, by varying the utterance production context (idiomatic vs. literal). Accordingly, performance differences across contexts could be used to determine
the respective roles of the linguistic convention and the context in idiom comprehension. Concerning idiom comprehension, the main results of this study were as follows. The role of context was present in all three groups of subjects (ages 6, 9, and adults); the role of the linguistic convention, appeared only in adults; and the role of familiarity began at age 9 and increased with age.

Previous developmental studies agree with these results on the following point: The role of the context appears before the role of linguistic convention. Thus, there are similarities between English, Italian and French. However, the previous studies diverge on the following points: The role of the context was maintained longer here (in adults) than in previous studies (Cacciari and Levorato 1989, 1999); the role of linguistic convention was only found here in adults, while in other studies, it was clearly present at age 9 or 10 (Ackerman 1982; Cacciari and Levorato 1989; Levorato and Cacciari 1992); and the role of familiarity was maintained longer here (age 9 and adults) than in Levorato and Cacciari (1992), where it was only present at the age of seven. Our results about familiarity seem to support the findings for adolescents (Nippold and Rudzinski 1993; Nippold and Taylor 1995; Nippold, Moran and Schwartz 2001; Nippold, Taylor and Baker 1996; Spector 1996).

The above age discrepancy may be linked to a specific characteristic of our method: Testing idiom comprehension in a literal context, i.e., a context that strongly induces a literal interpretation of the utterance. Other authors such as Cacciari and Levorato (1989, 1999) and Levorato and Cacciari (1992) have tested idiom understanding in an idiomatic context, a literal context, or without any context. In these two studies, the type of literal context used differed from the one in our experiment. It was either a rather ambiguous context conducive to a literal interpretation of the utterance, but for which the idiomatic interpretation was still plausible (Cacciari and Levorato 1989), or it was a context for which the literal interpretation was plausible but the idiomatic interpretation was the most appropriate (Levorato and Cacciari 1992). Literal contexts of this type create a communication situation that is much less ambiguous than the one generated by a clearly literal context. In our study, the communication situation was such that the linguistic convention and the context were radically opposed: They led to two opposing interpretations. In this case, the idiomatic interpretation relied solely on knowledge of the linguistic convention and on priority given to the linguistic convention over the literal interpretation deriving from the context. In the studies by Cacciari and Levorato (1989) and Levorato and Cacciari (1992, 1999), the communication situations corresponded to no-context situations or to neutral and/or ambiguous context situations, in that the linguistic convention and the context could lead to the same interpretation. In this case, the priority of the linguistic convention over the context is not the issue.

In our study, the later emergence of the linguistic convention effect can be attributed to the different cognitive processes at play in the literal context, which strongly induced a literal interpretation of the utterance. Only in adults was the role of the linguistic convention stronger than the role of the context. In other words, in an ambiguous situation of communication in which the interpretation based on a linguistic convention and the contextual interpretation are radically opposed, adults appear to reconstruct the communication situation solely on the basis of the linguistic convention.
Understanding idioms in French-speaking children and adults

6-year-olds

Mean IA rate

9-year-olds

Mean IA rate

Adults

Mean IA rate

Figure 1. Mean idiomatic answer rate (IA) by age, utterance production context, and idiom familiarity.

Explanation for the figure 1: Example with the idiom “*Tu es dans la lune*”\(^5\)

The answer rate corresponds to the idiomatic meaning “you are not paying attention”

Idiomatic context: The character is riding a bike and is not looking in front of him

Literal context: The character is walking on the moon

Data on children and adults metapragmatic knowledge could help us to go further in the interpretation of those results (cf. Bernicot et Laval 1996; Verschueren 2000). Two other results in our study should be highlighted. On the one hand, the role of context in idiom comprehension remains important in adults: This reinforces the idea of the necessity of taking the context and the extra-linguistic conventions into account in order to explain language functioning, not only in children as several authors have previously mentioned

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\(^5\) Idiomatic expression “*your head’s in the clouds*”; literal meaning of which is “*you are in the moon*” in French.
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(Laval et Bernicot 1999; Ninio and Snow 1996; Tomasello 2000), but also in adults. On the other hand, the late emergence of the role of familiarity (9 years old) and of linguistic convention (between 9 years old and adulthood) suggest that the period of adolescence is crucial for the development of certain pragmatic aspects of language.

Appendix

Familiar Idiom in idiomatic context: “Etre dans la lune”

Story setting (Picture 1)
Pablo et Flora sont en vacances à la campagne. C’est l’été, il fait très beau et très chaud. Ils décident tous les deux de faire une balade en vélo.

Utterance production context (Picture 2)
Pablo regarde le ciel en sifflotant ; il se dirige vers une meule de foin. Flora a vu la meule de foin et freine très fort avec ses pieds, mais Pablo lui ne freine pas : Il va avoir un accident.

Utterance production (Picture 3)
Flora dit à Pablo : « Tu es dans la lune ! »

Pictures 4 to be chosen by the subjects:

Idiomatic meaning (Picture 4.1)
Pablo tombe dans la meule de foin, car il n’a pas fait attention

Literal meaning (Picture 4.2)
Pablo est habillé en astronaute et marche sur la lune.

Unfamiliar idiom in idiomatic context: “Lever l’ancre”

Story setting (Picture 1)
Pablo et Flora sont au cinéma. Ils sont étonnés, car personne ne fait la queue pour aller voir le film qu’ils ont choisi. Ils prennent un billet et rentrent pour s’acheter du pop-corn.

Utterance production context (Picture 2)
Pablo et Flora s’installent. Le film n’est pas bien du tout et très vite, Pablo s’endort. Flora commence vraiment à s’ennuyer : Le film ne lui plaît pas du tout. Elle en a marre.

Utterance production (Picture 3)
Flora dit : « Je lève l’ancre ! »

Pictures 4 to be chosen by the subjects:

Idiomatic meaning (Picture 4.1)
Pablo se réveille et regarde Flora qui quitte la salle.

Literal meaning (Picture 4.2)
Pablo se réveille et regarde Flora en train de soulever une ancre de bateau.

Familiar idiom in literal context: “Régler son compte à quelqu’un”

Story setting (Picture 1)
Flora et Pablo jouent à la marchande. Pablo est le marchand : Il vend des bonbons. Il offre un bonbon à Flora pour qu’elle le goûte.

Utterance production context (Picture 2)
Flora trouve que le bonbon est délicieux. Elle décide d’en acheter un gros sac. Elle le met dans son panier et sort son porte-monnaie.

Utterance production (Picture 3)
Flora dit à Pablo : « Je te règle ton compte ! »

Pictures 4 to be chosen by the subjects:

Idiomatic meaning (Picture 4.1)
Flora paye les bonbons : Elle tend une pièce à Pablo

**Literal meaning (Picture 4.2)**
Flora donne un coup de poing à Pablo pour se venger

**Unfamiliar idiom in idiomatic context: “Décrocher la timbale”**

**Story setting (Picture 1)**
Pablo et Flora sont en vacances à la montagne. Pablo participe à un concours pour escalader une montagne. Il transpire beaucoup, mais Flora l’encourage.

**Utterance production context (Picture 2)**
Pablo est pratiquement au sommet de la montagne et il aperçoit une timbale. Il tend le bras pour la prendre.

**Utterance production (Picture 3)**
Flora dit: “Il décroche la timbale !”

**Pictures 4 to be chosen by the subjects:**

**Idiomatic meaning (Picture 4.1)**
Pablo est arrivé le premier au sommet : Il a gagné la médaille d’or.

**Literal meaning (Picture 4.2)**
Pablo prend la timbale et la montre à Flora

**References**


