

# BRAINSTORMING: TALK AND THE REPRESENTATION OF IDEAS AND INSIGHTS

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## ABSTRACT

This article concerns the analysis of a brainstorming session, employing conversation analysis. This brainstorm session is intended as an activity in the process of designing a computergame for children. The session is led by a facilitator, who is instructed by the maker of a prototype of a product (NOOT). The product NOOT is designed to support the interactive development of ideas for products, and it is to some extent used in the brainstorming activity. The brainstorm results in an arrangement of post-it notes on a whiteboard. The analysis discusses different methods for dealing with the task of ensuring that relevant issues end up on the whiteboard and irrelevant ones don't. Implications for the employment of NOOT in such sessions are then discussed.

## THE OBJECTIVE OF BRAINSTORMING

One could, initially, ask what brainstorming sessions in a designing process may be good for. Two types of answers would be possible to that question, which ultimately present different views on what cognition is. The one answer would be 'to share ideas and insights' and the other would be 'to create ideas'. The first answer reflects a conception of ideas and insights as being tied to the individual person, and of cognition being likewise. Ideas and insights in this view reside in the person and are subsequently shared with others by means of interactive communication. The goal of brainstorming

then is for participants to share ideas and insights which are useful for the design of the product.

Brainstorming in this sense, may be first and foremost a process of retrieval from long term memory in the sense that well-established models of memory describe it (e.g. Baddeley (2003)). In contrast, the other answer conceptualizes ideas and insights as originating intersubjectively, between participants. In this view, ideas and insights do not necessarily belong to one individual but can be created collectively through talk-in-interaction. In other words, people *make* insights and ideas rather than *having* them. This type of answer is associated with a view of cognition

as being shared, embodied, and involving physical space, talk, gesture, gaze, body posture and the handling of objects (see e.g. Hutchins 1996). In conversation analysis (CA) researchers have for some time been discussing cognition, taking departure in a conception of cognition as 'shared' (Hougaard & Hougaard (forthc.), Schegloff 1991, te Molder & Potter (2005)). Since the conception of cognition as shared and embodied involves aspects that are directly observable, conversation analytic studies of shared cognition aim at describing how these observable aspects are being employed systematically when participants in social interaction are trying to *make sense*.

The product NOOT is designed to support activities like brainstorming (see for a description of NOOT van Dijk & Brouwer (2010)). The design of NOOT takes as its point of departure that the objective of brainstorming is for participants to develop ideas and insights which are useful for the design of the product. The view on cognition as being shared and embodied has been the point of departure for the development of NOOT. The NOOT product is thus designed to support the joint creation of insights and ideas. Therefore, it makes sense to study the brainstorm session as a process of creating insights and ideas involving talk, body posture, gesture, gaze and the handling of objects, including NOOT, in physical

space with conversation analysis as a methodology.

## THE PRODUCT OF BRAINSTORMING

Related to the view that insights come into being in (social) interaction is a conception of ideas and insights on the one hand having the quality of processes that are playing out in time and thus to some extent are abstract or *impermanent*. On the other hand, however, ideas and insights may be seen as *outcomes* of these processes in the form of a record or records of that interactive process, which are material and thus *concrete* or *permanent*. The record may consist of several and different types of materials such as photos, video- or audiorecordings, prototypes, models or different types of written materials. In this article, *record* is used as an overall term for the material outcomes of a brainstorming session. These records, as Heinemann, Mitchell & Buur (2010) show, are constructed by and through interactive talk.

NOOT can be used to link written or drawn materials to an audiorecording of the interactive talk in a brainstorm session. This is done by placing a piece of paper in the slide of a NOOT. NOOT will send a signal to the audiorecording equipment, and make a sound. After a session, one will be able to directly access the recording of talk in relation to the creation of that written material, and thereby access information of how that material came into being. In other words, NOOT is designed to operate on the connection between *processes* and *material records*. The idea of NOOT is thus, that there is some type of direct relationship between the processes and the materials.

## AIM

The aim of this article is to explore the relationship between processes and records further. More specifically, the records considered here are the written representations of ideas and insights. The processes concern what actually goes on in terms of talk and other meaningful behaviour in the brainstorm session. An interesting question for the analysis is to what extent, and how, the record of the brainstorming session, in this case an arrangement of post-it notes on a whiteboard, reflects

the interactive process of brainstorming and to what extent it can be seen as representative of that brainstorming process.

## SETTING

The brainstorm session takes place in a room that facilitates recording of the brainstorm in several ways: There is a square table with bar seats, and the walls around them are whiteboard walls, on which paper, drawings, photo's etc can be hung, and one can also write on these walls. On the table are stacks of post-it notes, other types of paper, writing and crafting materials and tools, and several exemplars of NOOT. There are possibilities for audio- and videorecordings in the room. For this brainstorm the participants are seated in a half circle around the table, with the facilitator opposite of them. The session is recorded on video from two angles, and, additionally, audiorecorded.

## OBSERVATIONS - RECORD

The written record of ideas and insights that relate directly to this section of the brainstorm, is shown in the two photographs below.

The arrangement consists of these two constellations of paper and post-its which are placed on the whiteboard wall next to each other (the constellation with 10-12 being on the right) with about 15 cm between them. The words on the post-it notes are written with different handwriting and to some extent with different colours. It seems thus that the recording, the actual writing of the different post-its, is demonstrably done by several individuals. No words are written more than once, which also points at some coordination.

Furthermore, this record of the session is not self-explanatory, i.e. in itself it

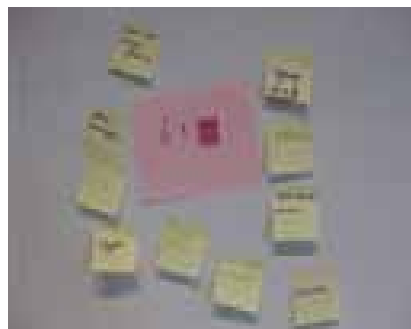


Figure 1: Post-it arrangement on the left side.

is not easy to understand. The record, in other words, does not only provide a representation of ideas and insights that have come up in the brainstorm, but seems also to be intrinsically tied to the talk that produced that record. In this sense, the record may be helpful for future use for the participants of the interaction but not for 'outsiders'.

## OBSERVATIONS - PROCESS

In the actual process in which the record is produced there is talk almost all of the time. There are in the 10 minute video clip few moments of longer silences. The post-it notes are written during this talk. Obviously, the words on the post-its are only a fraction of what has been said. Again, it is the relationship between what was said and what was written, which seems to be a central issue.

## ANALYTIC QUESTION

Based on the observations then, the question for analysis becomes:

*How do the participants come to a decision regarding which words will be in the record?*

In principle, this question reflects the task the participants themselves face: To make sure that relevant issues end up in the record and irrelevant ones don't. Following conversation analysis, it is assumed that the participants have methods for dealing with that task. The remainder of the article will focus on a few methods that are employed. On the basis of 3 excerpts from the data, these methods are described.

## PROPOSING 'WRITEABLES' IN A QUESTION

The brainstorms overall goal in the 10 minute clip is to get an overview of the specifics regarding the age groups that may be relevant for the development of a game. At the beginning of the clip,

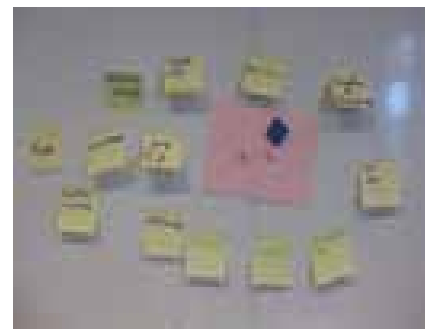


Figure 2: Post-it arrangement on the right side.

the two larger pieces of paper representing to different age groups (6-9 yo and 10-12 yo) are on the board and several keywords on post-its are already grouped around it.

The participants in the clip seldomly just write something down on a post-it, say it aloud and then place it on the board, even though this is basically what they have been instructed to do. Instead, they *negotiate* whether something may be relevant to write or not (see also Heinemann, Mitchell & Buur 2010). The most pervasive form in which they do this is by posing questions and answering them.

The questions can be of different types. They may be designed to *request information* that may be written on a post-it as in the following example:

(1) Which grades/Video_NOOT/Jelle van Dijk
01 P: welke groepen zijn dat ook al weer= =(dat) weet je wel toch? which grades are those again you know (this) right?

Excerpt 1, shortened version.

The questioner in excerpt 1 requests information, which the questioner actually may know, but just cannot recall. This is evident from the words 'ook al weer' *again*. By posing the question, a correct answer (if there is going to be one) is already beforehand implicitly proposed as a relevant item to write on a post-it. This view is supported by non-verbal behavior, since the questioner during the posing of the question already has his hands ready to start writing. Interestingly, as soon as a person offers something that can be heard as an answer to this question, the questioner repeats that answer and, simultaneously, starts writing as shown below in the full version of the excerpt:

(1) Which grades/Video_NOOT/Jelle van Dijk
01 P: welke groepen zijn dat ook al weer= =(dat) weet je wel toch? which grades are those again you know (this) right?
02 A: groep zes: [eh:] grade six [e:r]
03 P: [groep zes] [grade six] ...[(P starts writing)]

Excerpt 1, full version.

So, in stead of P deciding by himself that it is relevant to note for each age

group in what schoolgrades they are and starting to write that down, he seeks interactive support for doing so by asking the question. Implicitly, by providing an answer to that question, A confirms that this may be a relevant item to note down. This is thus one way of interactively seeking and getting support for items to be written on post-its.

#### PROPOSING 'WRITEABLES' IN AN ANSWER

Questions however, are not all of this type. Consider the following range of questions:

(2) Monkey business/Video_NOOT/Jelle van Dijk
01 J: hoe was jij toen je twaalf was what were you like when you were twelve
02 (0.4)
03 J: hoe was jij toen je tien was what were you like when you were ten
04 J: n hoe toen je zes was n what when you were six
05 D: hh.(hh)e(h)
06 B: .(h)j(h)j
07 (3.1)
08 J: en wat deed je toen vooral. and what did you do specifically
09 (3.6)
10 A: °oe:ff° °gee°
11 (0.5)

Excerpt 2.

These questions are much more open-ended. They appear at a point in the session where not many suggestions are coming. The facilitator J has just emphasized that they should find more specifics for the two age groups and the range of questions thus have the objective to get the talk going again rather than that they should produce specific items to write on a post-it note.

Several (types of) answers may be possible. The questioner is seeking information but has not one specific type of answer in mind.

As is clear from what happens after the questions are posed, the other participants do not have answers ready for this type of question (notice the 'oe:ff' in l., which displays that at least one of the participants finds this question difficult to answer). Because of the open-endedness of the question, answers that are offered not necessarily have the status of being 'writeables'. Instead, participants, upon hearing an answer, may *subsequently* negotiate whether that answer is 'relevant to write' or 'not-relevant to write'. From the continuation of the interaction we see that, initially, one

answer is received with laughter, thus pointing in the direction of it to be not specifically relevant to be noted down.

(2) Monkey business/Video_NOOT/Jelle van Dijk
12 D: ↓°kattekwaad° uithalen doing monkey business
13 ((several people laugh))

Excerpt 2 continued.

D provides his answer after a long stretch of time in which nobody has offered anything substantial as an answer to the range of questions that J posed. He structures his answer as something not really serious, in a low pitch and volume. The non-seriousness is picked up by several people, who laugh at this contribution.

However, after/overlapping this laughter, J explicates in several ways that the answer is actually a candidate for being noted down:

(2) Monkey business/Video_NOOT/Jelle van Dijk
14 J: ja ↓goeie schrijf op yes good one write down

Excerpt 2 continued.

Here J disregards the nonseriousness of Ds contribution and the laughter of the others.

First he produces a reassuring 'yes' then a positive assessment of the answer (goeie - *good one*) and lastly a direct instruction to note it down. Ds starts making movements to start writing as soon as the reassuring 'yes' is produced - taking up on Js assessment of his answer.

The interactants here thus deal with the task of establishing something as a 'writeable' in a very explicit way, J by producing a positive assessment and a direct instruction and D by acting accordingly to this.

In the first type of question, the *questioner* has thought of something to be ratified as writeable, in the second type, it is the *answerer* that has come up with something that may be ratified as writeable. 'Writeables' may thus be proposed either in questions or in answers.

#### THE ROLE OF THE FACILITATOR

In this brainstorming session, the facilitator J seems to have a special role. This is apparent from the way the participants are seated, most of them fac-



Figure 3: Sitting arrangement in the room.

ing the whiteboard, whereas J is seated a bit away from them, and with his back to the board, in a way a teacher would be placed in a classroom.

Excerpt 2 also conceals this special role. In spite of several participants having laughed at the contribution of D, the facilitator J cuts through with a positive assessment of the offered answer, thereby categorizing it as a ‘writeable’, and the word ends on a post-it note on the whiteboard.

Also Excerpt 1 reveals that Js contributions are weightier than other participants’. The excerpt is shown below in an extended version. A has given a tentative answer to Ps question (l. 02). However, when in l. 04 A starts to correct his own answer, J gets into their conversation (l. 06) and starts offering what exactly may appear on a post-it note. The offering of information has the nature of a repair (Schegloff, Jefferson & Sacks 1977): it is specifying what P and A have been talking about in terms of which grades the age groups correspond to. By such a specification J to some degree ratifies the type of talk as relevant talk in relation to writing talk on post-it notes. In other words, by offering specifications of what A and P are talking about, J displays that he regards the *type* of thing they are talking about (how the age groups correspond to grades in school) as relevant for writing on a post-it even though the actual *content* (the actual grades) should be specified. This ratification is further supported by Js pointing at the whiteboard from line 06 and on. This pointing is interactively tying what goes on between J, A and P in the sense of talk and A’s activity of writing to what is already on the whiteboard. Note specifically the conclusive nature of Js line 10 and 14. He structures this contribution as the ultimative answer by initiating it with ‘dus’ so (l. 10) and the conclusive intonation in this turn.

Also, the ‘repeat’ of P’s l. 13 can be seen as J not just ratifying the type of talk as ‘writeable’ but as treating A and Ps talk as merely allusive, while his own contribution is confirming the allusion (Schegloff 1996). Heritage & Raymond (forthc.) discuss answerers repetitions of polar questions (which in principle could have been answered with a yes) as moves that assert more authoritative rights over what is being confirmed than the questioner had conceded, specifically if this repetition is followed by a yes. In the case at hand, we see J making a related, if not similar move, by repeating P’s line 13 and post-positioning the ‘ja’ yes; even though it can be discussed whether l. 13 may be seen as a question, and even though l. 14 is not strictly a verbatim repeat of l. 13. In this excerpt, thus, J is clearly not only ratifying that talk is relevant for writing down, he is also correcting A and Ps talk and claiming authoritative rights over what has been suggested as ‘writeables’. That the participants accept this can be inferred from what follows the excerpt. After this, no more versions of an answer are provided by anyone, and P starts writing down, while the talk is moving in a different direction.

(1) Which grades/Video\_NOOT/Jelle van Dijk  
 01 P: welke groepen zijn dat ook al weer=  
 =(dat) weet je wel toch?  
 which grades are those again  
 you know (this) right?  
 02 A: groep zes: [eh::]  
 grade six [e:r]=  
 03 P: [groep zes]=  
 [grade six]=  
 ...[(P starts writing)]=  
 04 A: =nee eh:: groep zes is  
 =no e:r grade six is  
 05 (2.2) ((intervening talk from parallel  
 interaction not transcribed))  
 06 J: t:waalf is groep acht [hè:]  
 twelve is grade eight [right]  
 07 P: [groep]  
 zes tot negen is=  
 [(grade)]  
 six through nine is=  
 08 A: =twaalf is groep acht ja  
 twelve is grade eight yes  
 09 (0.4)  
 10 J: dus .h dus d- rechts is zes zeven acht?=  
 so .h so d- right is six seven eight?=  
 11 en links is e:h  
 and left is e:r  
 12 A: Groep [drie za k maar] [zeggen]  
 Grade three I'd kinda say  
 13 P: [vier vijf zes]  
 [four five six]  
 14 J: [(drie)] vier zes ja  
 [(three)] four six yes

Excerpt 1, extended version.

**FORMULATION**

Specifically if there is some talk on what the answer to a question could be, as in excerpt 1, one may make a distinction between the task of whether something of that talk should be written down and the task of what exactly should be noted down on the post it. This latter task can be subject to negotiation even after something has been written down as can be seen from the continuing of excerpt 1. When P has finished writing he takes his two post-its in his hands, gets up and moves towards the board. Then he turns towards the other participants and asks:

(3) Grades 2/Video\_NOOT/Jelle van Dijk  
 01 P: vier vijf zes (.) en zeven acht?  
 four five six (.) and seven eight?  
 02 (0.3)  
 03 ↓ehm  
 04 (0.7)  
 05 A: wat?  
 what?  
 06 (0.9)  
 07 P: vier vijf zes (.) zeven acht  
 four five six (.) seven eight  
 08 (0.7)  
 09 J: ja  
 10 ? ja  
 11 A: drie nee is drie vier vijf  
 three no is three four five  
 12 J: ja drie vier vijf  
 yes three four five  
 13 J: ((walks to the white board and changes the  
 writing on each of the post-its))

Excerpt 3 - following excerpt 1.

P is trying to make sure, just before his action becomes final in that he puts the post-its on the board, whether he wrote down the correct numbers. At stake is not whether it is relevant to have this type of information on the board, but whether it is correct. Initially, he gets a yes from J and one other person, but A interrupts and repairs orally what P has written. J then repairs the error in writing.

Some talk thus corrects what has been written on the post-it. Again, then, the task that the participants face (make sure that relevant issues end up in the record and irrelevant ones don't) are handled interactively. The content of the post-its, again, is thus tied to the structure of the interaction.

**WHAT ENDS UP ON THE POST-IT**

In some cases the information written on the post-it is simply the answer to the question (excerpt 2). In others, there is no straightforward correspondence between the answer to a question and what ends up on the post-it,

since the answer is being negotiated, as in excerpt 1.

Furthermore, one may distinguish between questions that ask for *information* to appear on a post-it note, and questions that ask for *confirmation* of something that is thought to be relevant. A question asking for *confirmation* is one like the following. J asks the question while both D and S are still writing post-its agreed on earlier:

(4) Sweethearts/Video\_NOOT/Jelle van Dijk  
01 J: en >bevoorbeeld< e::h eh eerste vriendjes en vriendinnetjes? zit dat hier ook al in and for example e::r first sweethearts-male and sweethearts-female does this apply here too already?

Excerpt 4.

The answers J gets to this question are very reluctant:

(4) Sweethearts/Video\_NOOT/Jelle van Dijk  
02 (1.4)  
03 P: °mm°  
04 (0.4)  
05 ? ↓ m[mm:::]  
06 P: [tien twaalf]  
[ten twelve]  
07 D: tien tot twaalf=  
ten through twelve=  
08 P: =beetje t begin  
a little the start  
09 D: hang ik m in t midden hè  
I'll hang it in the middle right  
10 J: s heel belangrijk hè voor ze  
is really important right for them

Excerpt 4 continued.

The pause in line 2 is very long and indicates that the confirmation is not going to be prompt. In line 3 is a soft, and in l. 5 a stronger indication of what has been described as a non-preferred answer (Pomerantz 1984). Such answers do not follow what the question is aiming at as preferred answers - in other words, J is not getting the confirmation the question was asking for. P and D (l. 7, 8) both give a type of answer, but it is only partly hearable as confirming, and they produce it hesitantly. D, in line 09 actually leaves this line of thinking and returns to what he was doing just before this question was posed, i.e. placing the post-it with 'kattetekwaad' *monkey business* (see excerpt 2) on the white board. This reluctant treatment of the suggestion as being a writeable could well have closed down the sequence here.

Now note l. 10. Here J emphasizes the importance of sweethearts for the agegroup, thereby providing a confir-

mation for his proposal, although the group as such has reacted very reluctantly on this. His line 10 has consequences for the record, since, possibly because of Js position as facilitator, P deals with it by asking another participant whether he is writing Js suggestion down:

(5) Will you write/Video\_NOOT/Jelle van Dijk  
01 P: schrijf jij dat o:p?  
are you writing this  
02 S: wat  
what  
03 P: °vriendinnetjes° ja wat schrijven jullie op?  
°female friends° yes what are you writing

Excerpt 5 following excerpt 4.

As it turns out, S is writing something else, and shortly after P himself starts to write on a post-it. Thus, although the group has not interactively agreed on this item to be on a post-it, and P himself has reacted to the question reluctantly, it becomes part of the record anyway.

Now, in Dutch, the phrase 'vriendjes en vriendinnetjes' may be interpreted as *sweethearts* or *boyfriends and girlfriends*, because it is preceded by 'eerste' *first* in Js question in excerpt 4, l. 1. It is however, without a specifier such as 'eerste' *first* normally interpreted as the more neutral *male and female friends*. A look at the post-its reveals that what P ends up writing is the phrase 'vriendjes & vriendinnetjes' *male and female friends* i.e. a phrase that does not cover the meaning of the initial suggestion. The post-it thus neither reflects agreement in the interaction (the phrase was written although no participant other than the facilitator seemed initially to regard this as a writeable), nor what actually was said (a much less specific term than the one initially offered was written).

## CONCLUSION, ANALYSIS

The analysis of the excerpts has shown that the task the participants face - to make sure that relevant issues end up in the record and irrelevant ones don't - is managed in several ways. Some of the methods the participants have for dealing with this are explicit instruction, proposing 'writeables' in questions and ratifying these, or proposing 'writeables' in answers and ratifying them. An obvious task for future research is to take these initial

insights on these methods and substantiate them further with analysis based on more data and on collections. One aspect that for example could be explored is not only considering what ends up on post-its but also how the actual arrangement of the post-its on the board reflect the talk in which it was produced. There are indications in the data at hand that there is a connection between the talk and the arrangement, but clearer documentation of the process and a larger corpus is needed to support an analysis of that connection. It has been analysed how participant roles may play out in these methods. It would be interesting to see, whether the same, or other methods are employed dependent on the possible identities that participants bring to a brainstorm session.

Furthermore, it was shown that the actual words and signs on the post-its are directly tied to the talk. In some cases, the record directly reflects particulars of the talk. In excerpt 5, however, the post-it does not reflect agreed upon items nor what actually was said. One can of course question whether it is so important for the record to reflect the process. On the other hand, records like this are thought to be useful in participatory innovation (Heinemann, Mitchell & Buur (2010)). Records may not be helpful in the process if some parts of it do not make sense, are not self-explanatory or may give rise to discussions on issues that were already discussed.

The analysis thus underscores the principle usefulness of NOOT: Records may deviate from what went on in the talk to the effect of them not being self-explanatory or even subject to be misunderstood. Linking records to processes may not only limit possible misunderstandings, but may also make it understandable for individuals who for some reason were not present in the brainstorm, but still are thought to take part in the participatory innovation process.

Furthermore, the analysis may be informative in relation to how NOOT could be used. If brainstorms by and large work in the way that questions are asked and answers negotiated to appear on a post-it, NOOT could be used for creating links every time a question was asked. A facilitator could

focus on asking questions and creating these links - thus dealing much more with NOOT - rather than directly partaking in the brainstorm. Finally, as the facilitator in this session asserts, it seems to be the case that brainstorm sessions can develop in very different ways. How NOOT is, and can be used will be dependent on what type of brainstorm session it is. This gives rise to further investigate NOOT and its functionality in participatory innovation.

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