The cross self-confrontation method and challenges in researching the active information-seeking of young people

Nicole Boubée
ÉSPÉ Toulouse Midi-Pyrénées (Higher School for Teaching and Education), University of Toulouse, France. E-mail: nicole.boubee@univ-tlse2.fr

Abstract
This paper provides a presentation on cross self-confrontation (CSC) as a useful qualitative method to address the challenges in studying active information-seeking of youth. There are two great methodological challenges and a major theoretical issue. First, youth information-seeking behaviour is characterised by frequent heuristic reasoning, very quick ways of dealing with digital media, making it difficult to give an exhaustive account of actions. This fundamental characteristic has never been discussed from a methodological point of view. Second, a well-known problem is that young people may have difficulties in articulating all their thoughts. Third, young information seekers are frequently compared to expert information seekers. Therefore, what they aren’t doing is well known and what they are doing is unknown. The CSC method presented is based on confronting individuals with their own activity and also with the activity of others with the help of video recordings. The method emerged from educational research known as stimulated recall and developed for work analysis in occupational settings, in allowing individuals to comment on the activities of others. Expected benefits are to assist memory, increase the participants’ reflexivity and provide significant knowledge about “personal touch”, “personal dexterity”. To discuss the potential methodological and theoretical benefits of studying youth information-seeking behaviour, we examine CSC using data from our former research project in Library and Information Science with 30 students aged 10-19 in France, working in tandem on imposed and self-generated information tasks. The results contribute to knowledge about using image and copying and pasting in the youth information-seeking process.

Keywords: cross self-confrontation method, youth information-seeking behaviour, students, image, copy and paste.

Introduction
Constructive discussions about methodological concerns related to adolescents and information have been already conducted in the field of young information behaviour, stressing the importance of matching methods to the unique social and cognitive attributes of youth, different from adults’ attributes (Agosto & Hughes-Hassell, 2006; Meyers et al., 2007; 2006, Bowler & Mattern, 2012). In taking up these questions, we rejoin this discussion by presenting the methodological approach that we implemented to examine active information-seeking of youth. In order to proceed, we first present an overview of the cross self-confrontation method (CSC) and its response to the central methodological and theoretical issues regarding youth information-seeking behaviour (YISB). We then provide an illustrative understanding of the CSC method based on our former empirical study with 30 students, aged 10-19, seeking information in tandem on imposed and self-generated information tasks. A description of two findings on the uses of image and copy and paste will follow. These results make clear that our methodological proposal, focused on information-seeking behaviour, is a means of exit from completed theoretical perspectives on Digital Natives or Naïves.

Overview of the cross self-confrontation method
The method can be defined as one of a specific research interview. The notion of confrontation is key to understanding its specific nature. This involves presenting the people observed with as much evidence as possible of their behaviour and asking them to comment on it (Theureau, 2010).

Origins and expected benefits
The origins of CSC lie in the works of educational psychologists; Bloom, who named it “stimulated recall” in the early 1950s, Nielsen who then used the term “self-confrontation” in the 1960s (Guérin et al., 2004). Bloom used it as an ethnographic method, confronting students with the film of their activity (Yinger, 1986). Von Cranach in the 1980s, brought a new variation to the method. He confronted a person with their behaviour (in a laboratory) but also showed it to others in order to understand its social meaning (Lacoste, 1997). This method would go on to be used in workplace ergonomic studies in France (Theureau 2010; Clot 1999). The two variants of the method were developed in this context under the terms of simple self-confrontation (a person is confronted with their activity) or cross-confrontation (pairs with the same level

1 The word “activity” here is a synonym of “behaviour”. However, its meaning is broader; “activity” refers to
of expertise are confronted with one or more activities). Similar practices can be identified in anthropology, which very early on developed methods for filming human activities. Roux thus relates the importance of dialogue with people who have been filmed in ethnological surveys (France, 1989). It is not hard to guess that, video, which adds another more real dimension to reconstructing human activity through the multisensory richness of audiovisual, is the preferred tool of self-confrontation. The image has another benefit (Lacoste, 1997): it gets people talking. This can help to reduce the social distance between interviewees and researchers.

There are several expected benefits: help with memory recall, reproducing the situation (or context) that is defined during the activity by the persons being observed, or, in other words reproducing the dynamics of the activity, increased reflexivity of the interviewees, joint analysis by the participant(s) / researcher. Cross self-confrontation is thought to accentuate both these two latter qualities. Any beyond this, in a professional environment, during exchanges between pairs, the discovery of discrepancies from requirements and “official practices” is to be expected. When conducting interviews, the key is to create the conditions for an exchange between pairs in order to reveal implicit practices, like a “personal touch” or a “personal dexterity”. In addition, seeing how one acts “through the eyes of another” (Clot, 1999) can enable a better understanding of one’s activity and the ability to express it.

Practical and theoretical limitations?

Implementing CSC is burdensome. It takes more time for participants and requires them to double their participation. Furthermore, there are much greater ethical and legal obligations. Indeed, video recording causes problems when watching back an image of oneself and also with the difficulty of maintaining anonymity. Conducting the interview itself also proves to be a complex process as the ability to listen carefully to the interviewees is impeded by operating the filming equipment. Lastly, the scale of the data processing task, which is inherent in qualitative approaches, is increased by the presence of two bodies of analysis, one of direct observations and the other of interviews. From a theoretical perspective, there is much criticism. One related to its introspective character. Henderson and Tallman (2006), using stimulated recall to study teaching activity of librarians, reiterate previously expressed reservations by behaviourists regarding introspection, an old psychological method, who classified it as unscientific. The second relates to the fact that it is also a retrospective interview, unreliable according to cognitive psychologists. Ericsson and Simon (1993, 1984) suggest that, among the verbalisations caused by the researchers, the think aloud ones that are expressed during the action provide more reliable data than those which occur after the action (think after). The third criticism stems from the ethnomethodology, which dismisses the validity of any research interview, as the accounts are conducted in a different context to the action that they are referring to. These arguments are rejected in different ways. Wilson (1994) points out the mismatch of thinking aloud by emphasising that not everything is conscious nor can it be easily expressed. Theureau (2004) points out that self-confrontation by its very nature contradicts the argument of “retrospective illusion” and provides a criticism of the argument for the “transparency” of ethnomethodology. Indeed, by promoting awareness of the unknown aspects of its activity, by representing the context of the action and by involving co-analysis, which implies a criticism of the expertise of the single researcher, self-confrontation is itself theoretically causing a stir among the other methodological options. In this respect, the CSC method is part of a constructivist approach in which “knower and respondent co-create understandings” (Denzin & Lincoln, 2013).

Self-confrontation is used to investigate many types of human activities, such as teaching practices, train driving, administrative work, sports refereeing. The video methods used are becoming more refined as they strive to achieve the effect of a subjective camera, a camera on the forehead or to explore new areas such as mobile phone usage with camera glasses. The positive opinion of the use of the self-confrontation method and the variety of activities that it allows access to, would thus appear to leave the door open to its use for seeking information. And yet, in information behaviour research, the method, in its stimulated recall version, has very rarely been implemented regardless of the subjects. This is not surprising. Surveys and interviews are the principal methods used here (McKechnie et al., 2002; Julien et al., 2011), and when the same single study combines several methods, they all too rarely interact with one another, regrets Fidel (2008), stating the case for the implementation of genuine mixed methods.

Matching a method to issues raised by YISB examination: CSC interests

The study of young information-seeking behaviour raises several challenges, both methodological and theoretical. Reviewing them enables us to demonstrate the compatibility of the CSC method with their study.

Youth information-seeking behaviour is characterised by frequent heuristic reasoning

The speed with which the youngest people search for information, whatever their age, is one of the key points of youth information-seeking behaviour, which has been observed in all phases of the information-seeking process.
It was measured early on, it took just a few seconds to enter a query, assess and then select or copy and paste. This speed at which the various information-seeking tasks are carried out can be approximated to a specific mode of reasoning, heuristic reasoning which is from the field of psychology (Tversky & Kahneman in 1974). Heuristic reasoning is a simple, easy, imprecise and imperfect reasoning process. In this respect, it is an alternative to analytical reasoning, which is also called reflective reasoning (Kahneman, 2011). This heuristic reasoning method is used on a daily basis by all humans to reduce the complexity of activities, meaning make them shorter and less difficult (Fiske & Taylor, 2007). Kahneman attempted to demonstrate that they could lead us to make mistakes whereas Fiske and Taylor endeavoured to demonstrate that they were not all entirely fallible (for example, merely reading the headings of articles in the press to decide whether to read them or not is simple and effective). Some are general, i.e. they are commonly used by a number of people and others are unique to one person (Fiske & Taylor, 2011). The notion of heuristic was used early on to qualify certain searching strategies, notably browsing strategies (Marchionini, 1997), considered as a beginner’s strategy and easier to implement than the better formulated queries used by experts in the field or in information searching. More recently, Metzger and Flanagin (2010) used a heuristic approach to the credibility assessment of media and web-based information by young people. Although the survey by questionnaire did not enable them to identify the heuristic methods actually used by young people, adolescents, and incidentally more so than pre-adolescents, say they use heuristic processes consistently.

Performing an information-related activity also quickly poses a serious methodological problem when carrying out a qualitative study, which requires the use of interviews, which is key to identifying the logical determinants, i.e. the meaning that young people give to their actions. Indeed, these very quick ways of dealing with digital media make it difficult for interviewees to give an exhaustive account of actions. In literature, there is some evidence of this phenomenon, especially in the early days of investigating digital practices. Navarro, Scaife and Rogers (1999), who even use immediate post-research interviews, observe incomplete recall from adult participants, when searching online. Significantly, they forget the choices of tools and queries that did not produce satisfactory results. Branch (2000) reports the same distinctive feature with young people aged 12 to 15 who are searching in an electronic encyclopaedia. During the think after, without confrontation, she notes that there is no real mention of dead ends or incorrect terms in the search query. Participants tend to describe the shortest path that enabled them to find the answer. They also sometimes said that they couldn’t remember what they did. In contrast, Large and Beheshiti (2000) theorise that young people omit the strategy that is the easiest for them. The authors highlight the fact that hypertextual browsing is not mentioned in post-information-seeking interviews with young pupils, unlike the query formulation which is mentioned several times. Bowler and Mattern (2012) who use a series of techniques (focus group, brainstorming, stories, draws) to help the 13 to 14-year-old adolescents remember their “own memory processes during the information search process”, note that in spite of these techniques, the adolescents are not easily able to recall their activity. They do not spend time thinking about their search for information, note the researchers. In other words, the adolescents lack reflexivity on their information behaviour. The confrontation with the information-seeking activity that was recorded beforehand can therefore prove to be of twin value – more memories and increased reflexivity. Branch (2000; 2001) confirmed and quantified this in his comparison of methods. In short, there are serious cognitive difficulties in obtaining a valid account of information-seeking activity. The self-confrontation interviews seem to be able to address these cognitive limitations, including with young information seekers. But other social difficulties can emerge when investigating young people’s practices.

A well-known problem: young people may have difficulties to articulate all their actions and thoughts

A lack of articulariteness is not only a matter of linguistic skills. The research interview or observation places young participants, children and adolescents in an asymmetric and unequal relationship in relation to the adult researcher. This status may lead young people to not be honest. They want to give a good impression or they may even be intimidated by the face to face with an adult that they don’t know, as they still lack experience in this type of situation. The young people may also think that they have to answer quickly and give the right answers (Punch, 2002 for a comprehensive review of these points). The reliability of the data may suffer as a result. And beyond this, conducting a research interview may be compromised. The youngest may remain silent or give very short answers which provides little in terms of useful data.

The self-confrontation interviews provide an appropriate response to social methodological difficulties: no face to face with an adult researcher, the exchanges taking place as much between the participants themselves as between researcher and participants. In addition, the images are likely to provoke discussion and in doing so can help reduce the effects of intimidation, which inhibit conversation. Nevertheless, specifics limitations have arisen in literature, in relation to the use of the CSC method with adolescents. Guerin et al. (2004) point out that cross self-confrontation, initially chosen to study the work of a class, had to be abandoned because the disruption caused during interviews with several pupils was too great. The comments especially related to their physical appearance and clothes and the technical qualities of the sound and picture. The comments about their activities were sporadic. The researchers had to make do with simple self-confrontation (a single pupil during the confrontation interview) which then went according to plan, demonstrating the ability of the youngest people to become actively involved in a research project. The
experience of these researchers tells us that transforming a self-confrontation interview into a focus group is not without its risks. It is wiser to plan for a reduced number of adolescents. But this also shows the youngest people have the ability to become seriously involved in research, once some measures have been put in place. This ability is broadly recognised in the works conducted in this area (Agosto et al., (2006), Meyers et al. (2007), Foss et al., (2013) and Watson (2014)). The recognition of the youngest people as competent social actors who are able to get involved in research is now a common feature in all disciplines. As one of the aims of self-confrontation is the co-analysis between the observer and the observed parties, it is important to have some assurances about the abilities of the adolescents to perform their role of co-data provider.

Theoretical perspectives in YISB studies are based too much on information expertise

The research method must be appropriate to the research question and vice-versa in the case of the CSC method. Indeed, this method is intended to observe an activity such as it is carried out, personally, by the person(s) observed. For observing information-seeking behaviour by young people, this poses a great theoretical challenge given the usual framework of investigation. Young information-seeking behaviour has been studied for several decades (for an overview, Chelton et al (2004), Case (2010), Boubée & Tricot, (2011); Gasser et al. (2012)). What is striking in this field is the consistency of the results for more than thirty years, which basically highlight the difficulties of seeking information and at all stages of the information-seeking process. Some criticism has been directed at this framework. Bernier (2007) raised the problem of observing pupils (vs adolescents) carrying out an imposed question (vs self-generated). This type of question, of which they have little knowledge and sometimes have little interest in, can only foil young information seekers. Works dealing with the everyday information behaviour of young people (Agosto et al., Meyers et al., previously cited), and providing a perspective on more complex information-seeking activity are along the same lines. More recently, Koh (2013) attempted to identify the innovative behaviours of young people as part of a theory called radical change theory, and in doing so equalize the failures that were attributed to a lack of skills. Our criticism of the works in this field is markedly different. What characterises the majority of works in this area as soon as the subject is young people, is that young information seekers are compared to expert information seekers. Therefore, what they aren’t doing is well known and what they are doing is unknown. Our research question asks (i) what young information seekers do, without referring to expert activity, and (ii) the meaning that the young people attribute to their information-seeking behaviour. The cross self-confrontation method provides practical and theoretical means of discovering such information-seeking behaviours.

Illustrative understanding of the CSC method to study the active YISB

To illustrate how to take account of these three methodological and theoretical challenges, we present some experiences and significant findings from a former work that sought to explore what happens during the young information-seeking process by examining what young information seekers do and not what they don’t do and the potential of the CSC method. These former works were carried out 2005-2007 (3 years to collect data and data analysis) on young people aged 10-19. We then, in discussion, clarify some assumptions in relation to the methods’ interests with our current works, carried out in January and February 2014 with young people aged 17-19 and based only on open-ended interviews (32)⁴.

Observation system

In order to meet the requirements of the cross self-confrontation method, we developed our system in the following way. Our sample is comprised of 15 pairs of students from Year 7 to Year 13, aged 11 to 19. 5 schools were contacted. Our observation system involves videoing a pair. The information task can be imposed by a teacher or chosen by the pair. The length of the sessions (information-seeking activities) varies. The decision to stop the search is taken by the pair. It is worth noting that the length of the sessions and interviews are consistent. They provide the first indications that the method is working correctly, supporting the involvement of the pre-adolescents and adolescents in the research project. Although the shortest session lasts 15 minutes and the longest 1 hour 4 minutes, the most common length of session is around 45 minutes. The majority of the self-confrontation interviews last around 50 minutes. The shortest lasts 40 minutes and the longest 1 hour and 4 minutes The cross self-confrontation interviews based on the video playback and viewing (on a TV, big screen) of their information-seeking process are conducted 8 days after the activity was recorded⁵. Allowing a week is necessary, both to have the time to conduct the initial analysis of the data (researcher constraint) and to have a second meeting with the participants (a constraint for the participants who are also pupils with busy schedules). To make it easier to recall the activity, excerpts of the activity are shown at the start of the interview. These excerpts follow the time sequence of the activity. After this first showing, the young information seekers all say that they clearly remember their actions. The film is then shown again, by each series of actions, at the request of the young people themselves who point out the actions that they wish to comment on and based on the choices made by the researcher. The interviews are also filmed in order to allow a detailed analysis of the interview data.

⁴ CSC will be used in the second stage of the research project.
⁵ Everything takes place in the schools that the students attend.
To meet the requirements of the method, recording an information-seeking activity and having pairs comment on it, we therefore instigated the information seeking activity and formed pairs (not more than 2 participants to avoid the problems encountered by Guérin et al. (2004)). Nevertheless, to maintain the characteristics of a natural situation, the pairs are formed by affinity and choose the information task they have to complete, which is imposed (by a third party, most often a teacher) or self-generated (from a personal interest). They carry out the information task, when it suits them, using one or two computers. The young people also decide when to end their task. The sessions take place in a location that they are familiar with, the CDI6. We could have recorded the activity of a single participant and asked a second one to come in just for the interview. However, the pairing system from the 1st stage only increased the spontaneous verbalisations during the activity and the shared experience of the task increased the volume of the exchanges during the interview. The activity is filmed with a camera on a pedestal which serves to capture the screen and gestures (fingers pointed towards the screen, for example), and thus stores more evidence of the activity than screen capture software. During the interviews, the youngsters/students rely heavily on the video footage, pointing at the screen, answering everything while looking at the images. The exposure of “personal touch”, joint or different ways of doing things, indeed occurred. The system thus enabled the observers to achieve the primary aim of the method, which was defined as a research interview that specifically promotes their reflexivity.

Image and copy and paste in young information-seeking

Two significant results (out of four established results) are presented here, because of the topical nature of the scientific issues they raise. One concerns the role of image in the information-seeking, an important issue which remains under-studied. The second concerns copy and paste in information-seeking, a practice which had only been addressed from an educational perspective, as literacy and plagiarism problems.

Uses and functions of image in YISB. Results and discussion

The focus on the images in literature was so inconsistent that the images were not our concern. A few mentions of the presence of the image in the youth information-seeking process have punctuated studies for several decades – but in a very subtle way, as the works have not focused on this specific feature. Beyond seeking images to embellish the final document and the use of illustrations as a way of gaining the interest of the pairs and the teachers (Large and Beheshti (2000)), the young people seem to use the images in another way, during the information-seeking process. One of the first large-scale studies into young information-seeking behaviour was an ethnographic study carried out by Fidel et al. (1999), which observed a use of the image in the process of evaluating a web page. The observed sixth-form students who were carrying out an imposed task, use the image to select a web page. However, the explicitations remain vague as the pupils simply mention a “good image”. A much more recent example of the use of image by young information seekers is given by Foss et al. (2013) who observe that “frequently adolescents verbally discussed and referred to images during their interview”. The images are mentioned more than the videos. During the activity, with a few adolescents (16%), which the researchers class as “Visual Searchers”, who make a common use of Google Images that they use at the start of the search. For all that, the researchers do not offer any discussion on this point.

The findings that we are currently reporting are very close to those of Foss et al. (2013) and also more detailed and discussed: image plays multiple roles in YISB. We have seen multiple image uses, at different stages of the search process, among all the pairs, both secondary and sixth-form pupils. The images used were photographs, reproductions of pictures and caricatures. We have drawn up a list of four usages of the image which demonstrate diverse functions of the image in the information-seeking process of young people.

Use 1 – Searching by image. One of the noteworthy uses of the image concerns the use of the “Image search” function in Google. Indeed, some pupils don’t just look for an image with Google Images, they also look for a website. Two pupils in Year 9, the first observed pairing to demonstrate this use of it, search for information on the tsunami (imposed task) using several queries entered into Google Images. During the self-confrontation process, one of the pupils comments: “When I put tsunami for the image, it will show me a wave (…) and I’ll go on the image and it will show me the site at the bottom.” The teacher’s instructions required text and images which could explain the use of Google Images. Nevertheless, in the same interview, his partner suggested that this visual search method is the one they usually use: “After, when you click [on an image from Google Images], it gives you a good website (…). On the Internet, sometimes they say, I don’t know, it can’t be found. Whereas with this method you get a good website straight away… to find something else”. Google Images allows them to access, as they say, “something else” other than the image, a “good website”, that is relevant to them. By doing this, they avoid having to read pages of results containing text that are produced by the search engine and reading the websites. The process, as described by the youngsters, indeed falls within the definition of the heuristic method, a way of finding their way around the Internet which they find fast and effective to the extent that they routinely use it. This is a smart method. It allows them to resolve in their own way the problems they encounter on the Internet and when seeking information.

Use 2 - Assessing by image. The image is used as a criterion of negative relevance. This is a second use of the

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6 “Documentation and Information Centre” in a school (school library). The interviews were also held in the CDIs or in the classrooms that had a television.
image in the process of selecting web pages. The image is used to quickly reject the document that it is in. In answer to the question of what made them leave the page so quickly, the reason given is the image. “We could see from the photos that it had nothing to do with it,” said one pupil from Year 10, “the images were in black and white,” said the Year 10 pupil from another pair. “I quickly saw that they were old,” confirms the second pupil from this pair, “the photos at the bottom didn’t match what we were looking for,” she added, about another website. The image represents a sufficiently negative criterion. One of the features of judging relevance, when it is negative, is that it can be made based on a single criterion, whereas, generally speaking, several criteria are needed for a positive assessment. Furthermore, judgements about relevance follow a pattern from negative to positive (Greisdorf, 2003). This quick method is not without its errors of judgement, at least for the youngest participants.

... The highly negative effect produced by an image leads a Year 7 pupil to dismiss a website that could have been suitable for his project. He accesses a page containing the fable of La Fontaine [a French writer from the 17th century] that he is looking for but immediately leaves it, saying that it is “strange”. During the self-confrontation interview, he explains: “because there was an image on it [small image at the top of the page depicting hostages in a country at war]. (...) In a thing about history [i.e. the fables of La Fontaine], they are talking about modern things.” This use of an image as a basis shows that young people assign the same informative content to the entire web page as the one assessed in the image that drew their attention.

Use 3 – Extracting the image and the arguments that are found there. The image helps start discussions with the teachers who assign the information-seeking task and with the pairs. “Ah, this gives me everything,” said a Year 10 pupil who was carrying out an imposed information task on Antigone. She adds: “it tells us everything about it here. There are even images.” When she sees the image she exclaims: “oh, Antigone’s a women?,” she goes back up to the top of the screen to read the text – thought she’s already read it - “Antigone, daughter of...” and confirms “yeah, it’s a woman.” She asks her partner to help her print it out, saying: “I want the images as well.” During the self-confrontation, she mentions the importance of keeping these images because “it [the picture] showed Antigone and Oedipus”, because “she [Antigone] is sad” and “to explain the context to him [the teacher].” In these three successive reasons, the pupil appears to show their process of understanding the theme in which the visualisation of this reproduction is one of the key moments. Furthermore, the image not only assists in the selection process but it also tells the teacher what has been understood. The highly social aspect of the image, especially in the case of imposed tasks, is also reproduced among the sixth-form students. In interviews, three of our pairs of six-form student, who, during the information-seeking activity, extracted images they found in web pages and pasted them into their own document or searched for images in Google images, stated that the image is important because in a report “it’s more lively”, “as a document in its own right (...), it [the image] enhances it”, “to give our opinion”. The argumentative functions of the image are clearly identified by the sixth-form students and secondary school pupils and they make use of them, including to “give their opinion” without the use of words, about social issues that bother them (case of a pair looking into contested bills).

Use 4 recognising the need for information through the image. One of the remarkable effects of the image is that it can trigger the information-gathering process. A pair of sixth-form students, as part of a semi-imposed task (the pair could choose the search topic as part of a teaching activity imposed on the class), do a search on PACS (a civil union contract under French law). After nothing was selected for almost 30 minutes, the repeated queries indicated an unfocused search process. The selection of the various information began late, notably by taking a photograph showing two men kissing during their wedding ceremony and which provoked an emotional response in the pair. After this collection, the queries more clearly related to the theme of homosexuality, one of the aspects of the topic that the pair had chosen to cover. The image that was selected seems not only to have helped in the process of focusing described by Kuhlthau (1991) but also in recognising and accepting their need for information (Chatman, 1996). A source of emotion, the image helped them to resolve their information-seeking problem that was much more difficult to accomplish than the theme defined at the start of the activity suggested.

Image is a really important heuristic in the information-seeking activity of young people. It allows young people to employ a series of information-seeking tactics with highly diverse functions. A number of our observations about the image concern imposed information tasks. However, as a pupil pointed out during the interview, it is highly likely that the image has the same functions in all contexts. The fixed image does not only provoke affects but also effects in the information-seeking process. By considering the role of the self-confrontation method in discovering the uses and multiple functions of the image in the information-seeking process of young people, we can observe the large variety of uses found by directly observing the activity and significantly the variety of their functions, revealed during the self-confrontation interviews, even though the operating methods based on the use of the image cannot be so easily expressed. This is because the image may be perceived by the young people, who are also pupils who know the expectations of their teachers, as having less value than the text. We did not observe any spontaneous mention of the importance of the

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3 See http://en.wikipedia.org/wiki/Civil_solidarity_pact

4 In the other sessions observed in the sixth-form college as part of imposed tasks, two instances of information collection began after 4 minutes, one after 6 minutes. In the session described here, the collection started after 28 minutes.
image in our current interviews (2014). It is clearly used as part of the set of techniques that the young people probably pay little attention to.

Roles of copy and paste in the information-seeking process of youth

We now return to this current common issue. Like the image, copy and paste was not part of our research intentions, as there was no mention in literature citing the link between copy and paste and specific phases of the information-seeking process. McGregor and Streitenberger (2004, 2005), focusing on the phenomenon of plagiarism, showed that it was linked to the low level of engagement of the young information seekers in their information-seeking project. In addition, they noted that banning plagiarism simply shifted the problem, since the pupils showed less understanding of their search topic when they were forbidden from copying and pasting. Pitts (1995) had noted the difficulty the majority of the student participants in her study had in organising information, who merely used the information in the order that they had found it. We have come to a radically different understanding of copying and pasting by identifying the role it plays in carrying out information seeking itself and not by isolating it into a single phase, usually that of the use of information. The starting point for the investigation of copying and pasting is our astonishment at the strictly identical form of the method, which involves simply piling it up in a word processing document which we called the “collection document”9. We define copy and paste as a type of information extraction that generates a “collection document” in which all the parts of the documents that have been copied-and-pasted are placed into a word processing document. This information extraction differs from taking handwritten notes or printing an entire document, other extraction methods used in our sessions. In 7 sessions with secondary school pupils and sixth-form students (out of 15) a collection document was created. All types of tasks, imposed and self-generated, led to the creation of a collection document.

Characteristics of the copy and paste process

- An initial analysis shows an information-seeking process that is punctuated by the collection of information. The volume of collections varies according to the session (11, 9, 8, 7, 5, 4, 3 collections). Overall, the number of collections made by each pair can be considered as high for these documentary searches that rarely exceed 1 hour. The rate at which they are taken is fairly regular. Regardless of the task, the collection process begins early and even very early on in the activity (less than 4 minutes). One session shows information being collected late in the process (nearly 30 minutes after the start of the activity) which demonstrates a difficulty in defining the need for information (see above).

- The second observation lies in the fact that the collection document containing the copied and pasted extracts is constructed in the same way: (i) the extracts are stacked up one after the other. There were two identical comments about this system of stacking in 2 sessions, with the pupils from the pair of sixth-form students reassuring their respective classmates about stacking up the extracts: “Put one after the other”; “go and do the next one”. The verbalisations during the activity also show that the young people designate a future place in the final document. But during the activity, the pasted extract is simply piled up after the previous one; (ii) the formatting of the collection document is put off to the point that separations by line breaks are not automatically done: “just paste it all in like that and we’ll do the layout after (...)”, said this sixth-form student after taking the 6th pasted extract; “it doesn’t look like anything like that,” was the comment made by a sixth-form student from another pair. “Yeah, we’ll tweak it all in a bit,” replies her partner; (iii) the information taken is generally small (a few lines, one or two paragraphs and often containing images). The pupils’ assessments of the length show that beyond around 3 pages, they start to feel that the document is sufficiently complete. By scrolling down the document, the pairs regularly check the length of the document to validate their decision to either stop or continue searching.

- The third observation relates to the “reviews” of the collection document. The pupils very regularly scroll through the collection document during the activity while going back over a few pages to find an article and which led to the information being taken. And beyond this, the systematic match between the content of the extract and that of the preceding query indicates that this isn’t just a collection of information by default. But the most notable link between the collection and the query lies in the reformulation that follows the collection. Indeed, collecting information frequently involves a reformulation of the query rather than continuing to look at the website that the extract was just taken from. The study of the queries shows that these reformulations often contain a new concept.

What do the young people say about it?

The verbalisations during the activity and the pupils’ explanations during the interviews show that they have incorporated the criticisms made of them with regard to copying and pasting. These criticisms of their copying and pasting activity are a common thread throughout their discussions of this practice. At the same time, they give an account of around 10 reasons which mainly concern their information-seeking process. In this way, the self-confrontation interviews show that copying and pasting is used to check (i) how completely the subject has been covered: “I am going to look and see if we need anything else,” said this sixth-form student when going back to the collection document after 30 minutes of activity; (ii) the quality of the information-seeking process: “To see if I’d say whether it was good or not,” said a pupil from Year 7 who is explaining why her partner had asked her during the activity to look at her collection document, “(...) if anything needs to be added,” she continues; (iii) storing information to continue to the information-seeking activity on the Internet: “This is why we are going to do a long

9 « Document de collecte » in French.
search because we are going to go back to it again several times,” said a sixth-form student or, in the opposite way, to continue the activity offline: “This way we don’t stay on the Internet,” he also went on to say; (iv) reducing information so as not to get lost. “Ah, I’ve got an idea! Go into Office (...). It’s what I do so I don’t get lost,” said this Year 9 pupil to her partner 8 minutes into the activity; to avoid opening multiple windows: “I use it [copy and paste] more when I am searching on lots of sites, instead of having lots of windows open,” explains this Year 13 student during the interview; (v) to manage time: “What’s good about copying and pasting is that you can select everything and then as we don’t really have the time on the computer, we can look at it at home later (...),” said one Year 12 student; (vi) check that it is in line with the task: “We didn’t have everything but for a report in quarter of an hour, we already had a lot of things,” explains the same student; (vii) to make good use of the information and for reading: “I had found something interesting to put in Word, after printing it,” said this sixth-form student. Thus, the reasons linked to the collection document refer to multiple aspects of the information-seeking process much more than the final document which in the case of the imposed task will be given to the teacher.

Copying and pasting between evaluating the information and checking the information-seeking process

Although our sessions didn’t all result in a collection document, which reduced the size of our sample all the more (7 pairs), persistent common features from one pair to the next have enabled us to put forward an analysis of this phenomenon. An initial indication of its importance in the information-seeking process is provided by its presence in all tasks, whether imposed or self-generated. The practice of copying and pasting is therefore not strictly linked to the need to provide the teacher who is setting the task with a final document. A second element reinforces our vision of copying and pasting as an important component of the information-seeking process. The collection of extracts from documents takes place early on in the activity and regularly throughout the search. These features are constant in all the sessions. A change to these features such as late or irregular collection indicates a difficulty in the activity. Thus, copying and pasting is a “good sign” in the information-seeking process.

Stacking up the extracts in the order “they were found”, which remains constant from one session to the next, is another key feature of this method of collection. Various elements, verbalisations between pupils to ensure the information is stacked, deferral of changes to the page layout, which though are deemed to be essential when read later, show the primacy accorded to continuing the information-seeking process and not the document that is being put together. From the perspective of the information-seeking process, the things they are stacking up are firstly their judgements about their relevance which are given a positive or a partly positive value. The judgements were made dynamically as empirical studies on relevance attempt to demonstrate (Schamber, 1990, Saracevic, 2007), moving an extract would mean breaking the logic behind the selection made in the process. It is understandable that pupils postpone this reordering, to a second phase, once the information-seeking process is complete. By maintaining the order in which the extracts were pasted, the pupils can use the collection document by consulting it regularly — which they do — after copying and pasting or when searching (quickly going back to the document) to see how well they have met their need for information. The collection document firstly enables a type of monitoring of the information-seeking process.

Using this, the secondary school pupils appear to be using a form of managing the information-seeking activity. The practice of copying and pasting would thus suggest that the secondary school pupils are not entirely devoid of metacognitive skills. In this respect, we agree with the conclusions of Bowler (2010) on the existence of metacognitive activities in the information-seeking process. Beyond this, copying and pasting is a way of resolving the information-seeking problem. Without it being systematic, it should be noted that the queries entered after the collection most often contain a new concept. The consequence of copy and paste therefore is not insignificant for the progress of the information-seeking process.

Julien and Barker (2009), when questioning sixth-form students about copying and pasting, point out that they dismiss it by saying that it saves them time. In our self-confrontation interviews, the accounts of the young people clearly highlight the importance of copying and pasting in completing their information-seeking task. The functions that the pupils assign to their copying and pasting refer first and foremost to this need to discard information that is not relevant from the mass of information on the Internet, in a limited time, based on a task and using their knowledge of the search topic. Just as with the images, copying and pasting can be classified as heuristic, methods which are remarkably common to the young people observed. In our current studies (2014) on high school students, based on open-ended interviews, they simply refer to a specific reformulation job, which we will qualify as one of “finishing”, involving reworking the style of the information that has been copied and pasted and giving it a less scholarly appearance, so as not to arouse the suspicions of their teachers. In this type of interview, the only data on copying and pasting relates solely to the normative logic of the teachers who have assigned the task.

Conclusion

The cross self-confrontation method whose successive developments we have presented within several disciplines, enables an in-depth observation of the information seeking behavior. It provides a detailed view of the actions that are being carried out without paying attention to it and the system of confrontation between pairs makes these actions intelligible for the interviewees and the researcher. We have tested the method on the
youngest people. Combined with a research problem that attempts to understand the logic behind the actions of young information seekers, the method enabled us to identify the importance of images and copying and pasting in the very process of searching for information. It seems that the young people found the resources so as not to be (fully) affected by the “pathologies of information”, information overload and information anxiety (Bawden, Robinson, 2009). We are not stating that the young people are skilled information seekers. It is more a question of labelling them “bricoleur”\(^{10}\) information seekers. More and more disciplines are attempting to use this type of cobbled together knowledge of young people in their outside school practices, regardless of their quality, to develop more formal learning processes. This type of teaching design remains largely untapped in the field of information literacy. In this way, our findings are likely to enrich educational design in this area.

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Curriculum Vitae

N. Boubée is an associate professor in the Higher School of teaching and education, University of Toulouse, France. She received her PhD (Information Science and Communication) in 2007 from the University of Toulouse, France. Her research interests include information and media practices of youth in formal and informal contexts.