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Does technology transform dialog? Transposing face-to-face interviews into email interviews in qualitative investigation.

Nicolas Viéville*, Laurent Morillon**, Sylvie Leleu-Merviel* and Michel Labour*

* *Laboratoire des Sciences de la Communication*
University of Valenciennes, France
sylvie.merviel@univ-valenciennes.fr

**LERASS
University of Toulouse, France
morillonl@free.fr

Abstract: This paper deals with the link between human interaction and Computer Mediated Technology by asking the question: does technology transform dialog? The research described here uses internet technology to transform interview modes of a tried and tested method of conducting research surveys on users' needs and wants. This was done by developing a special research method, called *Tuning Into Needs and WAnts and their Hierarchization* (TINWAH). This involves electronic mail-based dialogues as the basis of conducting a series of interviews. In this way the electronic mail becomes a unique vector of communication for interviewing. The first series of results from this study highlights the validity of this unique research method as it profoundly modifies its operational modes. The impact of these results has a number of practical implications for this type of Human-Computer-Human Interaction, especially in the educational field.

Introduction

The importance of conducting interviews is often a crucial element in human sciences, especially concerning qualitative investigation (Morillon 2000). When the approach used is one that is based on quality standards, designing a new product always begins with determining user's needs and wants. It must be done for instance for every new educational application. Our research considers this to determine the specificities of new writing tools for educational multimedia and hypermedia applications. This includes surveys subjected to careful experimentation concerning the types of interviews conducted with target users about efficient writing methodologies for multimedia objects. This was done by transposing traditional face-to-face interviews techniques to those involving interviews conducted by email (electronic mail). The method employed was taken from an existing tried and tested survey method. In so doing, our aim is to explore the possibilities offered in modifying original face-to-face interviews to evaluate its potential via the initial results when email interviews are put into practice.

Interview?

Given our objective of creating a writing tool for educational multimedia, it became indispensable to define the characteristics of what is considered as necessary or "attractive" by conducting surveys involving a range of different multimedia authors. As with many survey methods, the one we chose has as its starting point a series of direct interviews with a selected range of participants. The interview thus becomes a data source within the framework of a study of users' needs and wants. This begs the question, however, of what type of "interview" is implied?

Definition

The main objective of an investigating interview is to produce verbal data about a target universe that the researcher does not wish, at first view, to intervene in concerning its particular organization, or, more simply, that s/he does not have knowledge of (Blanchet & Gotman 2001). It is in this that an investigating interview differs from that of a standard questionnaire, which requires not only prior knowledge of the target universe but also the ability to produce a constructed discourse.

Research question

As Alain Blanchet and Anne Gotman remind us, there are many types of surveys that use interviews as a means of investigation. This can range, for example, from exploratory surveys by interviews, to surveys with preparatory interviews that seek to draw up a questionnaire. One result of this situation is that different modes of interviews exist and this can influence the characteristics of the replies obtained that in turn influence the results of the study. Indeed, Alain Blanchet states that the place of the interview has a direct influence on the capacity of interviewees to formulate more or less constructed replies and this affects the very nature of responses obtained from interviews (Blanchet & Blanchet 1994). Similarly, Dominique Wolton (Wolton 1997) points out that the spatial disposition of the protagonists of an interview influences the quality of their communication.

If the characteristics of the environment seem to have an influence on the nature of the data collected during an interview, the "characteristics" of the interviewer seem also to play a significant influence on the nature of the data collected during an interview. The interviewer's non-verbal behavior can be directly perceived by the interviewee in a way that it can influence the person's replies. In fact, speaker signification is constructed by 7% of word meaning, 38% in the way words are pronounced and 55% via facial expressions (Guittard 1993). This concerns communication between humans, which transmitted as verbal data does not contain just one type of data. It also contains a series of

data, called non-verbal data. This find an echo in what Paul Watzlawick distinguishes as "analogic" (non-verbal) communication as opposed to "digital" (quantitative, binary) communication (Watzlawick *et al.* 1972).

As is shown by these few examples and numerous others in the specialized literature on the subject, everything that makes up the interview can influence the quality and the nature of the data collected, as it involves, above all, an act of human communication. As far as is possible, our study seeks to minimize the effects linked to the interview framework, which is part of the overall method chosen.

Description of the experiment

Objectives

The aim of the interviews we conducted was to define the precise nature of the work done by a variety of multimedia authors in the process of designing multimedia documents. To do this, authors were asked to make explicit the manner in which they work so to define the characteristics of a tool that facilitates the design of multimedia documents. In so doing, the end-result of our study was to put forward a series of indispensable functionalities in multimedia writing, as well as those that would be requested by authors themselves.

Method of investigation: the Shoji Shiba original method

The protocol chosen was inspired by the Concept Engineering Method of investigation of Shoji Shiba (Shiba 1995). The French movement for quality (*Mouvement Français pour la Qualité*) disseminated the CEM method to companies in France as a suggested guideline to improve the quality of client relations and products. Amongst others, our laboratory has put the method into practice in the course of various research activities.

The method has five distinct phases:

1. Tuning into users' points of view. Using a series of open-ended interviews, this *first phase* involves a qualitative approach that can allow, depending on the protocol chosen, the identification of users' needs and wants concerning a given product of service.
2. Reformulating the points of views into "needs and wants". In this *second phase*, the researcher interprets the results of the Phase One in using, for example, a diagram of affinities.
3. Analyzing qualitatively the needs and wants. It is in using quantitative surveys that this *third phase* draws up a hierarchy based on the appropriateness of the different needs and wants identified from phases one and two. It is at this point that the determining criteria are established for the following two final phases.
4. Defining the product's/service's "strategy" (*phase four*) and
5. Defining the product's/service's "concept" (*phase five*).

The modular aspect of the method and its qualitative approach, makes it a prize tool for examining "needs and wants", as well as users (in quality standards language: clients) as the objectives to attain. In adopting a quality standard approach, the method puts users in the center of the study in order to fully respond to their needs and wants or to their implicit, explicit or latent needs. The aim, rather, is to define as best as possible the needs and wants of multimedia authors in terms of authoring tools pertaining to multimedia documents, the transmission of information that facilitates the creation of documents, and understanding how communication functions in an industrial environment.

It is for this reason that the general method of Shoji Shiba is used in our present study. It is important to underline here, that there is no question of using a non-academic method in research concerning the sciences of information and communication. So, what is important is not the origin of the method, but rather the efficiency of the different components in terms of the research question. Given this, the modular aspect of the Shoji Shiba method allows one to focus on just the necessary phases for the understanding and the identification of clients' needs and wants. It is thus possible to modify the original Shoji Shiba method by employing and transposing only the first three phases in order to extract information as to what a creation tool for multimedia documents should be like. The more commercial aspects of the method (phases four and five) is not the driving focus of our study. With this in mind, we formalized a modified method called the *Tuning Into the Needs and WAnts and their Hierachization*, (TINWAH).

Methodology and protocol of the TINWAH method

Certain modifications were made to the original protocol of Shoji Shiba, namely concerning phase one. In effect, we did not retain the direct interview of users. Instead, interviews by email were chosen. Amongst the reason that led to the modification of phase one is that of the theory of Paul Watzlawick (Watzlawick 1972) for whom it is not possible, not to communicate. Even when a human being is silent, there are a number of physical signs which can be interpreted, and, as a consequence, can be perceived as elements of "communication".

During the interview of a user, Shoji Shiba recommends that it is vital to note down the verbal exchanges word for word. The use of a tape recorder is banned as it disrupts the conversation, because it inevitably inhibits the interviewee. Interviewees will tend to be particularly careful about what they say, or may not make certain comments that would have otherwise have been made. The interviewer must also remain sufficiently focused to do what Shoji Shiba calls the "Japanese step", i.e. to progress step by step in the conversation towards the object of the study. Each step is based on exchanges that have occurred in the previous instances.

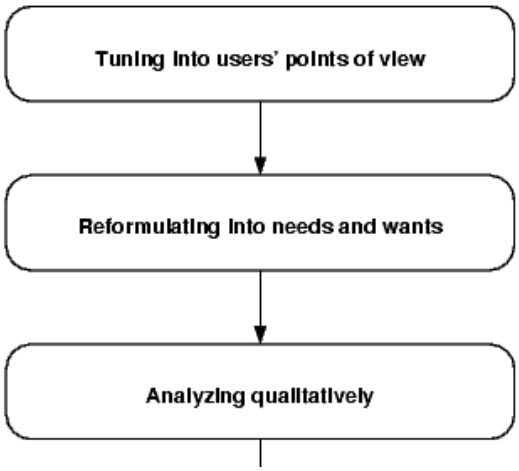

Figure 1. The three distinct phases of the TINWAH method

According to Shoji Shiba, the interviewee must never know beforehand the exact object of the study. The person can work it out as the interview progresses along. It is imperative that the precise object of the study should never be revealed before the end of the exchange. In this way, the interviewee's answers are not directly influenced. Under these conditions, the interviewer cannot easily note down every detail of the exchanges without risking missing, in a moment of oversight, a sentence.

Experience has shown that information collected cannot be done, without loosing some elements of information unless the interviewer is helped by one or two other people to take down notes of what is said during the interview (Leleu-Merviel 2000). This presence, if one refers to Paul Watzlawick, is not "neutral" on the same level as a tape recorder. Taking notes without saying a word, and leaving another person to lead the interview can influence interviewees, even causing them to freeze up, or limited to saying banal things. Also to be taken into account, is the length of the interview that can vary from a few minutes to several hours.

Transposing face-to-face interviews into email interviews in the TINWAH method

The methodology used for this study is both qualitative and quantitative. For Shoji Shiba the qualitative method must be conducted by a series of interviews of people linked to the area of the study. His method was modified in its operational mode by transforming face-to-face interviews into interviews by email.

If one ignores the commercial preoccupation of the Shoji Shiba method, the ideal interviewees are potential clients of the product to be improved or developed. For this study, the choice of interviewees was that of current authors of multimedia from different horizons, such as educational applications, electronic games, cultural cd-roms, Internet sites, composers of the digital arts, etc.

This choice of the interview by email side steps certain possible disruptive elements in the communication process, as discussed above. Putting in place the email-interview necessitated the validation of a protocol of communication (Viéville 2003, p. 421) with the different interviewees. This was done in a way that the technical limits of the tool could not be an inhibiting factor to "conversations". So, when the recommendations were done during the presentation of the recommended survey protocol, it left a certain amount freedom to interviewees in applying the TINWAH method for email-based discussions.

By virtue of their profession, certain authors were very familiar with the new electronic technologies and had no major objections about the proposed TINWAH method. Experience showed that in practice some authors did not stick to the procedures proposed by the mutually agreed protocol. However, this was not a major handicap for them to be involved in email discussions. The method, and more especially its technical framework, required a tight management of conversations so to overcome certain problems, as nothing is easier than not replying to an email. The sheer volume of emails received every day by certain Internauts can lead emails of only a few hours old to quickly disappear from the zone of visibility within the email software. One solution to this consists of sorting out emails received by putting messages concerning the study in its own special, separate electronic folder provided by most email software. In this light, the communication protocol, mentioned in the paragraph above, recommended how to best use the email tool. It also stipulated, for example, that the subject line of email messages contain rapidly identifiable words. Replies to questions should be written by using the "reply" function of the email software. In this way, such simple measures enables the rapid and efficient identification of email messages, the sorting out automatically of messages, and the optimal use of presentation modes of some email tools by creating specific places in the software for messages of a discussion.

Establishing and maintaining contact

A protocol was set up for a method that limits discussions to emails and so avoided all non-digital communication. But, the email tool involves fairly complicated protocols even though right from the start established solutions exists to overcome such difficulties, but these are little used nowadays. Taking this into account, our protocol can be summarized in two steps. First, an initial contact message is sent out (Figure 2a), followed, in the case of a positive response, by a message explaining the intended TINWAH survey method in the questions/answers exchanges, *i.e.* the communication protocol.

```
 (Translated from the French)
 Dear Sir or Madam
 At the moment as a doctorate student at the Laboratory of Communication Science, the aim is to
study ...
 It would be much appreciated if you could participate in this interview ...
 ...I would be most grateful if you could send your reply to the following email address ...
 Thanking you in advance
 Best wishes
```

Figure 2a. First step of the protocol, extracts of phrases to maintain a critical distance

Second, another message is sent out containing the initial question of the survey (Figure 2b). In this way, these two initial messages set up the basis of respect, and maintain a certain critical distance.

```
    (Translated from the French)
    Greetings,
       Thank you for indicating that you wish to participate in this study.
       Enclosed you will find the protocol that we will be using to communicate during the
interview, and the first question (found at the end of this message after the presentation of the
protocol).

    Protocol
       This study involves an email interview, so certain steps must be taken to facilitate our
exchanges and to deal with the messages later.
    - The interview has 5 main questions. They are identified by the words "MAIN QUESTION No. X".
Complementary questions will be asked to obtain additional information, or to clarify a specific
point of a reply received. This could increase significantly the total amount of questions asked.
    - The reply does not have any maximum or minimum length. The author is the sole judge of the
length of the reply. In this case, the present etiquette on the Internet should not hamper the
quality of precision of your answers. In addition, if the subject area inspires you, feel free to
send a lengthy reply.
    - Every reply to a question should be written using the "Reply" function of your email. If it is
not possible, the "Object" zone of the message must, if possible, contain the following chain of
characters, including the square brackets: [STUDY_AUTHOR].
       Then follows the text in the "Object" zone of the original message containing the question.
The question asked is found in the body of the message of the reply, just before the reply. If the
message has complementary questions, recopy, if necessary, the questions in the body of the message
of the reply, and insert your replies in between the questions.
Note: The use of the "Reply" function of the email greatly facilitates these operations, this is why
it is highly recommended. Furthermore, this email function facilitates the organization of messages
received in following the thread of different conversations. I intend to use this function in
dealing with your replies.
    - The question/answer cycle is, if possible, 24 hours. For reasons of time to deal with the
questions and their replies, a time period of about 24 hours has been fixed between each question,
its answer and the sending of the following question. Week-ends and public holidays are not included
in the 24 hours. If authors interviewed wish, they can shorten the question/answer cycle. If at all
possible, the time period of the question/answer cycle should remain around the recommended time
range. However, the time period should suit the authors interviewed, and if they feel that their
answer requires more time, they can adapt the time period accordingly.

MAIN QUESTION No. 1
    Could you explain what your job involves? What is a multimedia author?

    I am available for any further questions or supplementary details that you may wish to ask, or
for any clarifications about unclear points of the protocol.
    I look forward to your replies.
    Best wishes
```

Figure 2b. Second step of the protocol

The interviewees themselves influenced the final recommended protocol that they were to accept and apply. For, in wanting to avoid an over formal communication protocol, well turned out words and expressions used by some interviewees (multimedia authors), were taken up by the interviewer in recommendations in how all email discussions should contain similar introductory and concluding sentences. Not all the authors, however, reacted in the same way to

this “dressing up” of messages. Some, for example, replied without using the stipulated expression of introduction or conclusion in their messages. They replied directly in the main body of the message of the question that had been asked. Others, probably due to their “paper” culture and traditional email use, used standard introductory and conclusion expressions in their email messages.

When the dialogue is established according to the recommendations of the protocol, it is maintained by directly linking it to the reaction time of responses of both interviewer and interviewee. If one or other is too slow in responding, there is a high risk that the message will be drowned in the mass of incoming email messages.

In the case of non-response, except where there is prior agreement with interviewees, a reminder message is sent to interviewees for a week asking them if they are still willingly to participate in the study and reminding them of the last message sent to them. This helps to keep the dialogue going without inadvertently cutting off contact or deliberately breaking off the connection.

The interview was based on an identical introductory text for each of the interviewees. It is not possible to precisely determine if this common phase had an impact on the exchanges that followed. That said, the quality of some of the replies and their regularity permits us to suggest that our framework influenced, without explicitly intending to do so, the nature of the exchanges. For, the characteristics of the email conversations did not resemble those that can be found, for example, in electronic forum discussions with its “relaxed” style and content. It would seem the rigor of the protocol very probably introduced a certain discipline and care in the replies that the multimedia authors gave.

And yet, without explicitly stating so, the interviewer never refused to reply to questions from authors about the survey itself. Few authors availed themselves of this possibility. A simple attempt to do so would have been sufficient to convince them that this type of dialogue would also have been possible. The decision to maintain this possibility was guided by the desire for transparency with the participating authors who had the right to obtain certain replies when they posed questions to the interviewer. When some authors did ask such questions, they expected a reply from the interviewer. But, overall interviewees did not seek to find out who or what was “hidden” behind the interviewer. The first-contact text, in which the objectives of the survey are summarized, seemed to suffice.

Email writing modes

The technique of exchanging messages did not have any special feature, except that questions had to be preceded by a dash followed by a gap (in using the spacebar) e.g. - Describe the way you …? The technique chosen aims at rapidly identifying different questions, especially when several questions are asked one after the other. Each question is also indented, in this way two gaps are inserted at the start of each new line to take into account the gap created by the dash-and-gap technique.

Questions posed by the interviewer systematically repeat a significant part of the preceding discussion in order to ensure coherence in the conversation and avoid misunderstandings. In the same spirit of not disrupting the interviewee with extraneous factors to the conversation, each question and each resumption of conversations is reorganized in terms of adjustments, that email software sometimes offer, that indicates different levels of replies or questions in a series of discussions.

```
(Translated from the French)
>> - Do you think that the Internet is a medium of communication, and that as such, it should be
>> subject to all of the precautions that one takes with other areas of communication in terms
>> of taking account the target of the message when one wishes >> to transmit the message?
> The problem, is that today, one tends to confuse information, communication, mailings,
advertising…
> Loot at the Home Page of Wanadoo (France’s Telecom), and tell me at a glance what is
information, communication, advertising . . . If you can, bravo … !!!

- This means that when one designs such pages, the target (potential users of the page for whom
the page is designed) of the message has not been the subject of close study. This page is not
adapted to the expectations and the needs of the potential reader?
-   Is not here, the essence of the “challenge” of the new writing (the new “language” you
    mentioned) to be able to design pages in which it is not possible but to understand it?
```

Figure 3. An example showing the indentation allowing the identification of different questions

Results of the experiment

Advantages of the TINWAH method related to asynchronic conversation

Our method of interviewing multimedia authors via email seeks to limit the synchronic effects that a traditional face-to-face conversation can engender. The choice of this asynchronic mode of exchange embodies a series of elements that does not exist in the framework of face-to-face conversations. This opens up new possibilities to be explored. For instance, before asking a new question, the interviewer can reread all the exchanges received, and in this way take into account previous parameters, to draw up more finely tuned questions. This would be very difficult to do in a face-to-face interview. With the distance of asynchronicity, the interviewer also has the possibility of being able to reflect more profoundly on complementary questions that could be asked once the replies have been read. An authentic

work of reflection can be done before posing a question, contrary to more traditional methods where simultaneous questions/answers make such reflection more difficult. There is also the absence of the phenomenon of weariness, or "wear and tear". The interviewer and probably the interviewee as well do not endure the wear and tear process that can often happen in a more traditional conversation. The interviewer can go back at any time to related or similar themes without the replies causing the interviewee to being too weary or exasperated. This is due probably to pauses (rest periods) in the time period between questions and answers. In short, the quality of replies given is linked to the space-time context in which the conversations are found. A temporary problem can cause modifications that could impact on the overall quality of the replies given. In this case, the email allows interviewees to choose the moment they wish to reply to questions. In so doing, the replies that are given are likely to be done when the situation is appropriate either from a practical point of view, or when the moment is right in terms of the level of reflection. The timing factor (choosing the "right moment") modifies significantly the interview environment in terms of the original, face-to-face Shoji Shiba interview method. In reality, a busy person who had agreed to participate in this type of interview would probably shorten the replies so not to be late for the next planned appointment. The email can limit these phenomena without eliminating them completely as will be shown in the paragraph below.

The relative length of the interview is a determining element on the quality and richness of replies obtained from a given number of participating authors. If the interviews had been conducted face-to-face, it would have lasted, in all cases, for several hours (a minimum of six and half hours for the shortest interview). Based on the average time it took to write up the questions and read the answers in moving forward in "Japanese steps" in this study, the amount of message exchanged showed that the length of an interview is higher than that would have been effectively possible in a more traditional direct interview method.

Advantages of the TINWAH method related to modes of e-mail conversation

The email is a deliberately written text but not a necessarily spontaneous one. The words written are the outcomes of a choice that is not the result of pure chance. Certain reflections are profoundly thought out, and are representative of what the interviewee wishes to express. For instance, an author who had been asked to define the term "media", replied in the following way: "It is … what the hell! …", before giving a reply. In this way the author showed the turmoil that the question had caused him, and in a rather convincing way. It indicated the effort that would be needed in attempting to define the concept as best as possible.

```
 (Translated from the French)
-    When you are creating, at which moment in the creation process do you decide the type of
media that will use to express what you wish to transmit as a message?

I have never thought about it.
However, it seems to me that in this specific sort of work that consists of going from a mental
representation to a concrete artistic framework, several stages seem to follow:
- the complex searching for an initial idea, a first breath or a present emergency from which a
first mental representation (a vague image, badly put together) is formed
- then comes the time, sometimes superimposed on the previous stage, from the slow and painful
formulation of a well thought out point of view
- then the work of formalizing and choosing the media
- finally going mentally to and from about the suitability of the content/form
- then the near final fixing of the writing and of its form.
```

Figure 4. Examples of carefully thought reflections

With a written text, one can go back and make modifications. Interviewees construct their replies progressively in a manner like writing a speech. They can leave nothing to improvisation and can totally control what is finally said. No word can be said that is not intended as can happen in a more traditional conversation.

It is necessary to make a distinction at this point, between moments when interviewees seem to have ample time to reply, and those moments when they reply hurriedly. Some messages, in the text itself, reveal errors linked to a rapid typing style, or a certain feverishness. Interviewees that reply quickly between two meetings can also send off a text that they later regret. But, generally this type of text, corresponds to rough drafts or to typing mistakes that do not correspond to what slips out in a traditional conversation. On the other hand, other messages by their relative absence of typing mistakes, the thought out style of the reply, and the length of some replies indicate a different condition of interviewee response. The different degrees of control of replies are subsequently taken into account when messages are analyzed.

The fact remains that the framework in which the interviewee replies has a likely impact on the degree of intimacy on the messages sent. Being at home, probably in a darkened room – there were many authors who replied to questions late at night – with one's favorite beverage at hand, and having a one-to-one contact with the computer, dressed in comfortable clothing, can facilitate certain type of replies that a more traditional interview would not permit. Indeed, some authors admitted to expressing more that they had intended, and showed this in different ways. For instance, one of them asked for confirmation that interviewee replies would be anonymous. Another, after having replied to a series of complementary questions, asked what was to be done with the replies sent, when up to that moment the use of the replies did not seem to preoccupy the person particularly.

	traditional face-to-face interviews	e-mail interviews
interviewer's non verbal behavior	significant influence on quality and nature of the data collected	inoperative
physical characteristics of the **interviewer-interviewee rapport** (place of the interview, spatial disposition of the protagonists, presence of observers taking down notes, presence of a tape recorder, ...)	influence interviewees, may cause them to freeze up or be limited to saying banal things	inoperative
length of the interview	from a few minutes to several hours	a minimum of six and half hours
period of time involved in the interview	limited and under control	possibly unlimited
sources of disruption in the communication process	occasional and selective	permanent
technological constraints	non-existent	possible inhibiting factor
familiarity with the process or its technological framework	inoperative	possible handicap
establishing and maintaining the contact	"natural" (culturally familiar)	needs to plan and follow a rigorous protocol
mastering the written trace	rather difficult for the interviewer impossible for the interviewee	natural for both interviewer and interviewee
phenomenon of weariness, or "wear and tear"	frequent and rapid	not observed
controlling the discourse	rather difficult and leading to freeze up	permanent and easy
structural mastering of the discourse, accessibility to high level functions (feedback, cut, copy, paste, insert, joint pieces, rereading, choice of the right term or expression...)	impossible	easy
space-time context, environment, affective ambiance	constrained and fixed	choosing the "right moment" and the "best place", generally intimate
spontaneousness, improvisation	frequent	can be non-existent
deeply thought out reflections, detained and precise replies	not easy	frequent
silences in the conversation	easily interpreted with non-verbal behavior	alarming and impossible to interpret without explanations

Figure 5. Synoptic view of some difference between traditional face-to-face and e-mail interviews

Disadvantages of the TINWAH method

The major disadvantage of the TINWAH method of interviewing is that it requires a technological (tool based) framework that enables people to dialogue via email. Those who do not have access to this technological system will not benefit from this system, except possibly by fax or by using a traditional stamps and envelopes. Given that the interviewees of this study were selected by email, it did not outright exclude potential multimedia authors who could have participated in this type of email-based study. The profession of the interviewees permitted us to assume that our electronic mode of operation would not present a problem in conducting our study.

The asynchronic conversational mode engendered by the technical framework is also a source of disruption to the conversation itself. Some of the silences from the interviewees between two replies were problematic for the interviewer. Is the interviewee momentarily too busy to reply, or has the person no real time to think about replies to the questions asked? Does the interviewee wish to continue with the interview? Is the silence linked to what was said in the last exchange? Is the person still in a psychologically or physically (ex. illness) sound situation to reply? Could the interviewee have missed the interviewer's email in the continual flow of numerous email, which one receives daily. Or, has the person received the message but has simply not chosen to reply for the moment?

All of these questions, as possible causes of a silence are major disadvantages of the TINWAH method. If the density and the quality of replies obtained seem to be a strong point of our method, the haphazard aspects associated with the email tool and its standard use does not allow us to predict precisely the time needed to conduct this type of study in its entirety. The original Shoji Shiba method limited the time frame of the interview, and in so doing avoided this issue as well as a number of questions raised above.

The asynchronic conversational mode and the questions raised by the interviewer highlights the challenge of being constantly on the alert for messages that have not been replied. It is therefore vital to establish a protocol to regularly

remind interviewees to participate in the interview. This can be done by preparing a basic text that can be used on a wide scale. The text used in our study asked the interviewees to reply to the reminders, without jolting them too much, and informed them of all the issues raised during their silence. A personalized sentence can modify the perception of the message and minimise the possible impression of it having been automatically generated.

Conclusion

In the course of research work aimed at identifying a writing tool for educational multimedia creation, it was necessary to use the TINWAH survey method, which has as its starting point a series of email interviews. The email was chosen both for practical reasons and in wishing to minimize some of the undesirable effects of traditional face-to-face interviews. The interviewees successfully participated in the study in adhering to the basic communication protocol we had proposed.

The initial results from our experiments are very promising and show, despite a very significant increase in the time factor for interviews, that the interviewees fully participated in the ensuing conversation. Some of them opened up more than they themselves expected in the context of a study into user's needs and wants. With the use of the email the following significant elements were highlighted:

- an asynchronic mode of conversation (anyone can "take the floor" when they are available and willing),
- the relative absence of certain inhibitors linked to the conversation environment (interviewees reply to questions in a familiar environment, which in all likelihood is "user friendly"),
- a possibility of rereading conversations received because everything is recorded (email software tools allow for a reorganization of messages received for possible consultation at any time in the interview process).

With our method it is up to the interviewer to set up an appropriate conversation protocol to take into account the absence of non-verbal information in a conversation between human beings. The particular framework of investigating interviews calls on the interviewer to examine regularly appropriate questions in order to maintain and deepen the conversations.

This type of interview needs to be further experimented to determine if our approach is adapted to other types of surveys and questions, and if indeed it offers the number of advantages that our study suggests. Of particular need for study is the question of emotional involvement (Leleu-Merviel & Labour 2003) when the interviewee is confronted with the lack of face-to-face contact with the interviewer.

Finally, this kind of computer mediated communication can be enlarged to other types of human interactions via a computer. One can think for example of pedagogical accompaniment in distance education. It would be interesting to determine if such a protocol modifies the relation learner/teacher as much as it transforms the dialog interviewer/interviewee. One other notable impact that our research can have in the educational field is that of pedagogic email discussions, especially the "learning-by-doing" variety. The lessons learnt in our study of managing constructed dialogues via email are of particular importance in learning where collaboration is a central theme of the pedagogic objectives. A case is point in the Council of Europe-funded "eTandem learning" where language learners from different countries learn different languages by communicating and helping each other (Brammerts *et al.* 2001). The findings of our study could thus be used for learners taking on the "role" of a journalist or a market researcher, or such like, to gather systematically information from far-off partners concerning their culture and their language uses in order better master each other's language. Our own studies and practice in the field of e-learning confirm that a major challenge in this type of e-learning is the difficulty of participants in coordinating their questions and their answers in a seamless way that is conducive to sharing ideas in a meaningful way.

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