Using Audiovisual TV Interviews to Create Visible Authors that Reduce the Learning Gap Between Native and Non-Native Language Speakers

Terry Inglese

University of Lugano (Università della Svizzera Italiana), Switzerland

Richard E. Mayer

University of California, Santa Barbara, USA

Francesca Rigotti

University of Lugano (Università della Svizzera Italiana), Switzerland

Author's address: Terry Inglese

University of Lugano (Università della Svizzera Italiana)

Institute of Communication and Education

New Media in Education - NewMinE Lab

Via Buffi 13

6900 Lugano

Switzerland- CH

Author's email: terry.inglese@lu.unisi.ch

Abstract

Can archives of audiovisual TV interviews be used to make authors more visible to students, and thereby reduce the learning gap between native and non-native language speakers in college classes? We examined students in a college course who learned about one scholar's ideas through watching an audiovisual TV interview (i.e., visible author format) and about another scholar's ideas through reading a formal text description (i.e., invisible author format). For the invisible author, native language speakers scored significantly higher than the non-native language speakers on a corresponding exam question (i.e., a cognitive measure), generated more words on the exam question (i.e., a motivational measure), and mentioned the author's name more often in answering the exam question (i.e., an affective measure). For the visible author, the groups did not differ on any of these measures. These findings provide evidence for the idea that making the author visible through audiovisual TV interviews can eliminate the learning gap between native and non-native language speakers.

Universities around the world serve students who are non-native speakers of the language of instruction. An unintended consequence of the globalization of higher education is the potential for a learning gap in which non-native speakers may not learn as well as native speakers who possess the same characteristics. The learning gap can be attributed to social factors--such as non-native speakers having less of a feeling of social connection with the presented material--and cognitive factors--such as non-native speakers having to exert more mental effort cognitive capacity to deeply process the material. Although non-native speakers may need to work harder to accomplish the same level of understanding as do native speakers, sometimes instructional environments may not adequately encourage non-native speakers to process the presented material more deeply. Our study is based on the idea the students learn concepts more deeply when they feel they have a personal relationship with the author--a relation that may be less salient for non-native speakers. The purpose of our study is to examine the potential of audiovisual TV archives as a device for making authors visible, which in turn creates a social connection that encourages students--particularly non-native speakers--to work hard to make sense of the material. We refer to this idea as the *visible author hypothesis.*

Based on the visible author hypothesis, we are interested in the role of audiovisual archives (such as recorded interviews, documentaries, and news clips) stored by TV and film organizations) as important starting points for developing multimedia instructional messages that can promote deep learning in students at all instructional levels. Audiovisual archives maintained by TV and film organizations, in particular, represent a vast, largely untapped resource for educationally relevant material. In particular, audiovisual materials such as "talking-head" interviews with authors can help to foster a sense of personal relationship--that might not otherwise develop in non-native speakers--

and that, in turn, may lead to deeper learning. In this paper, we report a study in which we incorporate audiovisual segments of interviews with scholars within the context of a social science college course taken by native and non-native speakers. (1)

According to the media equation paradigm, developed by Reeves and Nass (1996, p. 5), "media equal real life", that is to say that people can automatically and unconsciously respond socially and naturally to media. According to the Reeves and Nass, media can create the sense of being present with real people, in which case human responses to media are determined by the rules that apply to human-to-human social relationships. If media and real life can be similar, then knowledge of how people respond to real people and places should reveal a lot about how people respond to media.

When learners view segments of TV interviews with scholars they are studying, the scholars become visible both literally and psychologically, that is the learner may come to respond to the interviewed scholar on a more personal level. The *visible author* and the *invisible author* are concepts formulated and developed by Paxton (1997, 1999, 2002) and Nolen (1995), as they analyzed student responses to history and statistics texts written in the first and third person. They defined the *visible author* as one who writes in first person, revealing personal beliefs, attitudes and a self, and who addresses a second person. They defined the *invisible author*, as one who writes in the third person, and who does so in a very formal, detached and academic manner. Nolen et al. (1994) elaborated on these definitions of visible and invisible authors by saying that texts written in the first person seek to establish an *I-you relationship* between author and reader. This I-you relationship entails a human-to-human relationship. In contrast, the *I-it relationship* of the invisible author and his or her reader establishes an abstract human-to-referent relationship.

Paxton (1997, 1999, 2002) and Nolen (1995) then used the implications of these two different modes of writing to examine the cognitive effects they had on students' reading

comprehension, recall and their ability to apply the knowledge that they acquired from texts in a written form. They also examined the student's affective response to the first and third person texts. They found that the visible and invisible authors provoked demonstrably different outcomes in student performance. In particular, using the *thinking aloud protocol* methodology (Ericsson & Simon, 1993; Pressley & Afflerbach, 1995), Paxton (1997, 1999, 2002) explored the difference between student response to the visible and invisible author in historical texts, and concluded that while reading the text of the invisible author, students tended not to converse mentally with this author, nor did they reflect on the author's perspective. He also found that they were less inclined to take issue with the author's biases and opinions. In contrast, with the introduction of a strong narrative voice – that of the visible author – students responded positively, that is, they began to have a mental dialogue with the author and demonstrated a willingness to think of the author as manifestly human.

With the same thinking aloud protocol methodology, Nolen (1995) studied the visible author in statistical texts. She was especially interested in the image of the author that the readers constructed as they were reading statistics texts, and the relationship among reader, author and texts. According to Nolen, authors who emerge from the text are welcomed, and students perceive this visible author as helpful and supportive. In addition, if an author takes a visible, more egalitarian stance (as opposed to a detached and impersonal one), anxious students might relax, trusting in the author to help them understand difficult material. Such an author might be able to convince readers of the importance of learning the material, increasing their commitment to the task of comprehension and of motivation.

Texts having an invisible author, on the other hand, have often been criticized for containing too much *textbookese*, or too much voiceless, impersonal, and dispassionate language. In these texts the author is truly invisible, meaning the reader has no clue as to his or her point of view or personal beliefs about the content under discussion. It is a style that

generally lacks what Crismore calls *metadiscourse* (Crismore, 1984). Metadiscourse is the way an author intrudes into to the primary, informational discourse of a text to give opinions or direct the reader. According to Crismore, authors signal their attitude toward the content through the use of what she calls *attitudinal metadiscourse*. She describes four types of attitudinal metadiscourse: *emphatics*, which indicate the degree of certainty of an assertion *saliency*, which indicates the importance of an idea; *evaluative*, which indicates the author's attitude toward a fact or idea; and *hedges*, which indicates the degree of uncertainty. According to some communication specialists, metadiscourse can guide readers by helping them understand an author's perspective, and hence engage in deeper processing of the material.

Similiar points concerning the learner's awareness of the author's voice have been made by Wineburg (1991a, 1991b) in his study of learning from historical documents, by Shanahan (1992) and Beck, McKeown and Worthy (1995) in their focus on *voice* in texts, and by Mayer (2001, 2005) and Moreno and Mayer (2000, 2004) in their research on the *personalization effect* in multimedia instruction. Importantly, Salomon (1979, 1984) has shown that, in general, one medium does not communicate better than another medium, that is, visible author videos do not communicate better than corresponding texts per se. However, videos and text rely on different symbol systems, and therefore differ with respect to how much processing they demand and allow, which in turn can affect who will learn deeply from which kinds of messages.

In the present study, we extend the visible author hypothesis beyond printed text by examining whether talking head video can serve to create social presence. Further, we extend the visible author hypothesis as a way of reducing the learning gap between native and non-native speakers, based on the idea that a feeling of social presence will encourage non-native speakers to exert the extra effort they need to learn as well as native speakers.

In particular, our study is situated in a Political Theory class in a Swiss university where the language of instruction is Italian but a substantial portion of the students are not native speakers of Italian. We have in video format a visible author-- the Austrian philosopher of science Paul Feyerabend--consisting of TV interview segments and the textual transcriptions of the interview. The Feyerabend interview represents a sort of double visibility--in the literal sense because of the visibility of the scholar as a talking head on the video, and in a figurative sense because of the visibility of the scholar through his personal and conversational speech in which he refers to the dialogical I-you relation between himself and the interviewer. In contrast, we have an *invisible author*--the Italian scholar Andrea Semprini--consisting of a selection of some passages from his text about the historical, sociological, and theoretical analysis of the phenomenon of multiculturalism in democratic societies (Semprini, 2000). We use these video and text materials in order to study the visible and invisible author modes and their effect on students' cognitive, motivational, and affective performances.

Although previous studies have increased visibility by presenting printed text in first- and second-person formats that give voice to the author and highlight the author's personal perspective (Paxton, 1997, 1999, 2002; Nolen, 1995) or by presenting narration in conversational style (Mayer, 2005), we explore a new method for creating visibility in this study--namely, allowing students to view TV interviews of scholars in which they express their opinions and offer personal insights.

The native language of the students played a central role in the study. The course was taught in Italian, but about half of the students in the course were not native speakers of Italian. As in many universities around the world, a substantial portion of the class consisted of students who were not native speakers of the language of instruction. Given the advantage of learning in one's native language, we expected native Italian speakers to

outperform non-native Italian speakers. However, we were particularly interested in whether this learning gap could be reduced or eliminated through the use of visible authors. Thus, based on the visible author hypothesis, our major prediction in this project is that Italian speakers and non-Italian speakers would differ on learning with invisible authors but not on learning with visible authors.

This prediction is based on the idea that non-native language speakers must devote a substantial amount of cognitive effort to language processing so they are less likely to be able to engage in deep processing of the presented material during the normal course of learning. When we make the material more personally relevant through the use of a visible author, such learners are primed to engage in deeper processing, that is, they are invited to work harder to understand the visible author' message. In contrast, native language speakers may be able to devote adequate cognitive effort to deep processing of the lesson content because language processing requires little or no cognitive effort. Adding a visible author that primes deeper processing is not needed because they are already processing deeply.

<div align="center">Method</div>

Participants and Design

The participants were 108 university freshmen in Communication Sciences (77 females, 31 males) who took a political theory course that was taught in Italian. This class was composed of two groups: native Italian speakers ($n = 60$) and non-native Italian speakers ($n = 48$). The most common languages of non-native Italian speakers were German, French, Spanish, English, and Russian. The student's native language (i.e., Italian versus non-Italian) was the main between-subjects factor in the study. As part of the course, all students learned about and were tested on the concepts of one visible author

and one invisible author. Visibility of the authors (visible versus invisible) was the main within-subject factor in this study.

Materials

The visible author materials consisted of a TV video clip of an interview with the philosopher Paul Feyerabend, which was presented in the lecture portion of a college class, a printed transcript of the interview, and a web-based program containing activities to be used in conjunction with the TV video clip. The invisible author materials consisted of several sections of a text written by the scholar Semprini (Semprini, 2000). The evaluation materials included a test given at the end of the course, a pre-questionnaire, and a post-questionnaire.

The instructional multimedia resources that we implemented in the course were loaded on the learning platform Moodle, which was used as the primary tool for the in-class lessons and for the homework activities. The platform also contained *the log files account*, which kept a record of all student activity through the platform, including how the texts and the videos were used during the homework activities. The Moodle platform allowed the students to have on-line access to a wide variety of materials including video clips of the interview with Feyerabend, the textual transcription of the interview, a homework assignment involving Feyerabend, several photos of Feyerabend, the course syllabus, the weekly slides used in the course; biographies of all the scholars described in the course, an overview of the course, and a reference texts by Andrea Semprini, who served as the invisible author.

The TV video clip for the visible author was retrieved from the archives of the Swiss public television station. It consisted of an interview with Paul Feyerabend that lasted about 4 minutes, and was an abbreviated version of the longer on-air interview. The goal of the interviews in the archives was to allow scholars to approach different topics

related to their disciplines, mentioned some of their personal experiences as scholars, and offered personal convictions and opinions in an informal way. The clip we focused on in this study is from the 1988 interview with the Austrian philosopher Paul Feyerabend, concerning the concepts of democracy, the role of experts and citizens in a democratic but scientifically driven society, and what should be the active roles of the citizens today. The video clip was digitized for computer-based storage, and a text transcript of the interview was created. Other clips were used in the course but were not included in this study because this material was not tested on the final exam or because students were familiar with the scholar. The transcript of the interview is given in Appendix A.

The final exam contained six questions, including one question about the visible author, one question about the invisible author. The question about the visible author was: "*The last and decisive decision has to be taken from the population of the interested area, it has to be a democratic decision*. What should be the role of the citizens and the role of the experts according to the democratic relativism doctrine of Paul Feyerabend? Do you agree with Feyerabend?" The question about the invisible author was: "Describe the four models of the multiculturalism defined by Semprini."

The questions were designed to allow learners to have broad discretion in their answers. Scardamalia and Bereiter (1987, 1991) have found that on written composition tasks, students do not simply write what they are told to write, but how they interpret the requirements of the assignment. Students who feel a sense of author presence, may write more extensively, and Scardalia and Bereiter (1987, 1991) have found that the number of words in student writings correlates with indicators of writing quality.

The pre-questionnaire contained questions concerning basic demographic information, including sex, age, native language, and nationality; questions about attitudes towards old and new technologies for learning; and questions about prior knowledge and

interest in the topics of the course. The post-questionnaire contained questions about the scholars studied in the course including a rating of prior knowledge about various scholars and interest in reading books by various scholars. Additional questions asked students to evaluate aspects of the course. The language of all materials was Italian.

Procedure

The instructional portion of the study took place during five weeks within a 13-week course. On the first week of class students completed the pre-questionnaire. The video of the *visible authors* was shown twice in class. The purpose of the first time screening was to provide students with an introduction to the author. After the first screening, the textual transcription of the video interview just seen was distributed to the students, and a second screening of the same video was presented. The students could follow the second screening of the video, reading the text and/or listening while watching at the videos. The video was preceded by a presentation from the professor about the author. A discussion session between professor and students followed the second screening. The professor created a dialogic arena environment where each student could express his/her ideas after the explanation of some key concepts proposed by her and by the visible author, an instructional method very much appreciated by the students. Knowing what to say and how to argue is an important communicative competence for a communication sciences student, and this participative dimension of answering to a virtually invited intellectual was very much appreciated by the students. The concept and theory of the visible and invisible authors were not mentioned or explained by the professor.

Weekly homework assignments, related to the visible authors, were given to the students to be completed online outside of class. Students had access to the website running the Moodle platform in order to do the homework, in which they could access the

video clip and/or printed transcript as many times as they wanted. The homework assignments consisted of answering a series of questions related to the concepts expressed by the visible authors. For example, the homework assignment concerning Feyerabend asked students the following two factual questions: "1. From Feyerabend's perspective, who has the final judgement on democratic decisions, the experts or the citizens?. 2. What example is proposed by Feyerabend in the video segment that supports his argument? Do you have some examples of *experts being non-experts* that have settled some problems for you or some of your friends or relatives? Please briefly describe a meaningful episode"

The instructional goals of the homework assignments were to enhance critical thinking using the concepts narrated by the scholar and to let the students take personal position towards his ideas. The homework was required, but not graded. Each week the professor collected all the written homework answers by the students and gave brief collective report in class. This activity lead to additional discussion in the class.

On the last week of class, students completed the post-questionnaire.

At the end of the course, students were asked to write answers to each of the six questions on the final exam. Three of the final questions were dedicated to the visible and invisible author's experiment. The non-Italian language students had the chance to answer in Italian, French, English, Spanish or German. From a class of 108 students, 85 (46 Italian language students and 39 non-Italian language students) took the final exam.

Scoring. The score on the invisible author examination question and the visible author examination question was based on a scoring rubric with scores ranging from 0 to 10 on each question. The number of words written for the invisible author examination question and the visible author examination question was determined by counting the number words that each student wrote for each question. As suggested by motivational theory based on measures of persistence (Pintrich & Schunk, 2002) and Bereiter and

Scardamilia's (1987) research on writing, the number of words written was used as our measure of motivation. The number of times the student referred to the author either by name or personal pronoun in the invisible author examination question and the visible author examination question was determined by counting the number of times the author's name or personal pronoun was mentioned for each question. The interest rating was determined by recording the student's rating on the post-questionnaire of interest in reading more books by the invisible author and the visible author, with 1 recorded for "not at all", 2 for "little", 3 for "much" and 4 for "very much".

<div align="center">Results and Discussion</div>

The major issue addressed in this study is whether the learning gap between native speakers and non-native language speakers is reduced for visible authors rather than invisible authors. We examined three aspects of reducing the learning gap--cognitive outcomes, measured as score on the final exam questions; motivational outcomes, measured as the number of words produced on final exam questions; and affective measures, measured as the number of times the author was mentioned in answers to final exam questions as well as post-questionnaire ratings of interest and closeness.

A secondary issue addressed in this study is whether students show different cognitive, motivational, and/or affective outcomes for visible versus invisible authors. Given the naturalistic context of the study, we were not able to control for all possible differences the visible and invisible authors. However, an analysis of variance showed that student ratings of prior knowledge did not depend on whether the student's native language was Italian or not Italian, $F(1, 66) = .02$, $p = .88$, or whether the author was visible or invisible, $F(1, 66) = .75$, $p = .39$, and there was no significant interaction between native language and author visibility, $F(1, 66) = .04$, $p = .84$. Thus, there was no evidence that prior knowledge was a confound.

Cognitive Outcomes

The first row of Table 1 shows the means and standard deviations for each language group on the final exam questions about the invisible and visible authors. The first step was to determine whether the two language groups differed on their scores on the invisible author exam question and on the visible author exam question. *T*-tests showed that the Italian students scored significantly higher than the non-Italian students on the question about the invisible author, $t(84) = 2.11$, $p = .04$, but not on the question about the visible author, $t(84) = .53$, $p = .60$. The effect size based on Cohen's *d* is .45 for the invisible author (which is considered medium) and .11 for the visible author (which is considered negligible). These findings provide evidence for the idea that making the author visible can eliminate the learning gap (with respect to cognitive outcomes) between native and non-native language speakers[2].

An analysis of variance was conducted on the exam score data, with native language as a between subjects factor and author visibility as a within subject factor. There was a significant interaction between native language and author visibility, $F(1, 84) = 4.42$, $p = .04$, consistent with the observation that the difference between the language groups was large for the invisible author question but not for the visible author question. Again, these findings provide support for the idea that making the author visible can eliminate the learning gap (with respect to cognitive outcomes) between native and non-native language speakers.

The second step was to determine whether visibility affected learning. The ANOVA showed that the score on the visible author question was significant higher than the score on the invisible author question, $F(1, 84) = 20.01$, $p = .0001$. This visibility effect is consistent with prior research demonstrating that students learn better when the

author is made visible through the use of first and second person constructions and emphasizing the author's voice.

Motivational Outcomes

The second row of Table 1 shows the means and standard deviations for the number of words written by each language group on the final exam questions about the invisible and visible authors. The first step was to determine whether the two language groups differed on the number of words they produced on the invisible author exam question and on the visible author exam question. *T*-tests showed that the Italian students produced significantly more words than the non-Italian students on the question about the invisible author, $t(84) = 2.571, p = .01$, but not on the question about the visible author, $t(84) = -.35, p = .72$. The effect size based on Cohen's *d* is .56 for the invisible author (which is considered medium) and -.07 for the visible author (which is considered negligible). These findings provide evidence for the idea that making the author visible can eliminate the learning gap (with respect to motivational outcomes) between native and non-native language speakers.

An analysis of variance was conducted on the number of words data, with native language as a between subjects factor and author visibility as a within subject factor. There was a significant interaction between native language and author visibility, $F(1, 84) = 6.17, p = .02$, consistent with the observation that the difference between the language groups was large for the invisible author question but not for the visible author question. Again, these findings provide support for the idea that making the author visible can eliminate the learning gap (with respect to motivational outcomes) between native and non-native language speakers.

The second step was to determine whether visibility affected learning. The ANOVA showed that the number of words written for the visible author question was not

significantly higher than the number of words written for the invisible author question, $F(1, 84) = 2.39$, $p = .13$. Thus, the overall visibility effect observed for exam score was not found for number of words written on the exam, presumably because Italian speakers wrote as many words for the invisible author as for the visible author.

Affective Outcomes

We measured affective outcomes using a behavioral measure--i.e., the number of times the author's name was mentioned in student's answer to the exam question--and a self-report measure--i.e., post-questionnaire ratings of interest.

The third row of Table 1 shows the means and standard deviations for the number of times the author was mentioned by each language group on the final exam questions about the invisible and visible authors. The first step was to determine whether the two language groups differed on the number of times they mentioned the author on the invisible author exam question and on the visible author exam question. *T*-tests showed that the Italian students mentioned the author significantly more times than did the non-Italian students on the question about the invisible author, $t(84) = 2.21$, $p = .03$, but not on the question about the visible author, $t(84) = .81$, $p = .42$. The effect size based on Cohen's *d* is .49 for the invisible author (which is considered medium) and .18 for the visible author (which is considered negligible). These findings provide evidence for the idea that making the author visible can eliminate the learning gap (with respect to affective outcomes) between native and non-native language speakers.

An analysis of variance was conducted on these data, with native language as a between subjects factor and author visibility as a within subject factor. There was no significant interaction between native language and author visibility, $F(1, 84) = .00$, $p = .99$, consistent with the observation that the absolute difference between the two language

groups was equivalent for both the invisible and visible author. However, in terms of effect size, the difference was much greater for the invisible than the visible author.

The second step was to determine whether visibility affected learning. The ANOVA showed that the author was mentioned significantly more often for the visible author question than for the invisible author question, $F(1, 84) = 206.60$, $p = .0001$. This visibility effect is consistent with prior research demonstrating that students learn better when the author is made visible through the use of first and second person constructions and emphasizing the author's voice.

The fourth row of Table 1 shows the means and standard deviations for the interest rating by each language group for invisible and visible authors. The first step was to determine whether the two language groups differed in their self reported interest in reading more about the invisible and visible authors. T-tests showed that the Italian students and non-Italian students did not differ significantly in their interest ratings for the invisible author, $t(84) = .07$, $p = .94$, or for the visible author, $t(84) = .30$, $p = .76$. The effect size based on Cohen's d is .00 for the invisible author (which is considered negligible) and .08 for the visible author (which is considered negligible). Unlike the behavioral measures, these findings provide no evidence for the idea that making the author visible can eliminate the learning gap (with respect to affective outcomes) between native and non-native language speakers.

An analysis of variance was conducted on the interest ratings, with native language as a between subjects factor and author visibility as a within subject factor. There was no significant interaction between native language and author visibility, $F(1, 84) = .02$, $p = .89$, consistent with the observation that the absolute difference between the two language groups was equivalent for both the invisible and visible author.

The second step was to determine whether visibility affected learning. The ANOVA showed that students expressed significantly more interested in reading books by the visible than by the invisible author question, $F(1, 84) = 4.19$, $p = .04$. This visibility effect is consistent with prior research demonstrating that students learn better when the author is made visible through the use of first and second person constructions and emphasizing the author's voice.

Overall, we found evidence that visible authors eliminated the interest gap between native and non-native speakers when we used a behavioural measure of interest but not when we used self-report measures.

<div align="center">Conclusion</div>

Theoretical Implications

Overall, the findings provide preliminary support for the visible author hypothesis--the idea that using visible authors in instruction can reduce the learning gap between native and non-native language speakers. In short, these results suggest that gaps in achievement, motivation, and interest between native and non-native speakers can be eliminated when instruction involves visible authors rather than invisible authors.

How does instruction with visible authors reduce the learning gap? According to the visible author concept (Nolen, 1995; Paxton, 2002), the media equation (Reeves & Nass, 1996), and the personalization principle (Mayer, 2005), students work harder to make sense of the presented material when it is presented in personal, conversational style rather than formal, monologue style. Viewing an interview with a scholar (i.e., visible author format) allows the learner to develop a personal relation with the scholar, and therefore try harder to understand what the scholar is saying. Reading a formal, third-person account of a scholar's ideas in a textbook (i.e., invisible author format) does not

encourage the learner to form a personal bond with the scholar or to try hard to understand the scholar's points.

Non-native speakers may be particularly disadvantaged when the instructional goal is to deeply understand complex concepts. Based on cognitive load theory (Sweller, 2005), they may devote so much cognitive effort to basic language processing that they do not exert sufficient cognitive effort to deep processing of the presented material (i.e., what Sweller calls *germane processing*). The visible author format may serve to prime the non-native speakers to increase their level of germane processing. In contrast, native speakers do not have to devote much cognitive effort to basic language processing because the instructional language is familiar to them; therefore, they can allocate a heavy dose of cognitive effort to making sense of the presented material. Thus, native speakers may use a high level of germane processing regardless of the instructional format. The major theoretical contribution of this study is to show that archived TV interviews can be used to create a visible author format that helps non-native language speakers work harder to understand conceptual material in a college course.

Practical Implications

This study provides encouragement that new media such as TV archives can be used to foster learning in academic settings, especially for students who are non-native language speakers. Audiovisual interview clips represent an intriguing medium for priming a personal connection with learners that can have useful consequences for learning. Although additional research needed, we propose an extension of the personalization principle: Students learn better with audiovisual interviews than with formal textbook descriptions, especially when the language of instruction is different from the learner's native language. Overall, more research is needed to determine the characteristics of effective audiovisual interviews for specific kinds of learners (such as

non-native language speakers). For example, Schwan and colleagues (Garsoffky, Schwan, & Hesse, 2002; Schwan & Garsoffky, 2004; Schwan, Garsoffky, & Hesse, 2000) have identified features of video that affect learner comprehension, such as the type of viewpoint, film cuts, and break points. Research on the pedagogic role of video is particularly relevant to instructional contexts in which a substantial portion of the students are not native speakers of the language of instruction, as is increasingly becoming the case in universities around the world.

Limitations and Future Directions

The current study ranks high in ecological validity because it was conducted within the context of an ongoing college course. However, some level of experimental control had to be sacrificed concerning each of two major factors in the study--native language (i.e., the between subjects factor) and author visibility (i.e., the within subject factor). First, students were not randomly assigned to language group, so it is possible that native speakers of Italian differ from non-native speakers on some instructionally important dimensions. In the current study, the two groups did not differ significantly in their self-reported prior knowledge of the visible and invisible authors, so we know for at least one important instructional dimension there was no confound. Second, Semprini was the invisible author for all students and Feyerabend was the visible author for all students, so it is possible that the instructional materials and test questions differed on some instructionally important dimensions. It was not possible to counterbalance the two authors because the instructor required that all students received the same instructional opportunities. However, these possible confounds are mitigated partially by the fact that our focus was on comparing the learning gap (i.e., the difference between native and non-native speakers) for visible and invisible authors. Future research is needed that increases experimental control (but perhaps decreases ecological validity).

This study should not be construed as a possible pure media effect (i.e., text versus audiovisual media), because the two treatments differed in terms of author visibility--including physical presence versus absence, use of conversational style versus formal style, and inclusion of personal information versus none. Instead, our treatments were based on the complementary concepts of author visibility (Nolen, 1995; Paxton, 2002), the media equation (Reeves and Nass, 1996), and the personalization effect (Mayer, 2005). Audiovisual interviews offer the possibility of creating a sense of author presence, but further research is needed to determine whether similar effects could be produced with appropriate text and photos. It would be interesting to contrast visible authors presented by text and photos versus visible authors presented in audio-video context. Given the potential power of speech, it would also be interesting to contrast visible authors presented in video with on on-screen text versus video with concurrent speech.

Although we obtained somewhat consistent evidence for the learning gap hypothesis across several different dependent measures, it is important to note that this study involved only one college course. Further research is needed to determine whether the results can be replicated in other courses.

In conclusion, this study suggests that TV archives can be a pedagogically useful tool in reducing the learning gap between native and non-native language speakers. In particular, talking-head video can help college students develop a personal interest in learning course material, which is particularly helpful for non-native speakers. Audiovisual archives are a largely untapped resource for making learning more personal, and ultimately, for encouraging students to process material more deeply.

References

Armbruster, B., & Anderson, T. (1985). Producing considerate expository text: or easy

 reading is Damned hard writing. *Journal of Curriculum Studies*, *17*, 247– 274.

Beck, I., McKeown, M., & Worthy, J. (1995). Giving a text voice can improve students'

 understanding. *Reading Research Quarterly*, *30*, 220-238

Crisemore, A. (1984). The rhetoric of textbooks: meta-discourse. *Journal of Curriculum*

 Studies, *16*, 279 – 296.

Ericsson, K. A., & Simon, H. A. (1993). *Protocol analysis: Verbal reports as data.*

 Cambridge, MA: MIT Press.

Garsoffky, B., Schwan, S., & Hesse, F. W. (2002). Viewpoint dependency in the

 recognition of dynamic scenes. *Journal of Experimental Psychology: Learning,*

 Memory, and Cognition, 28, 1035-1050.

Mayer, R. E., (2001). *Multimedia learning*. New York : Cambridge University Press.

Mayer, R.E. (2005). Principles based on social cues: personalization, voice, and image

 principles. In R. E. Mayer, (Ed.), *Cambridge Handbook of multimedia learning*

 (pp. 201-214). New York: Cambridge University Press.

Moreno, R., & Mayer, R. E. (2000). Engaging students in active learning: The case for

 personalized multimedia messages. *Journal of Educational Psychology, 92*, 724-

 733.

Moreno, R., & Mayer, R. E. (2004). Personalized messages that promote science learning

 in virtual environments. *Journal of Educational Psychology, 96,* 165-173.

Nichols, B. (1991). *Representing reality: Issues and concept in documentary.*

 Bloomington, IN: Indiana University Press.

Nolen, S., Johnson Crowley, N., & Wineburg, S. (1994). Who is this 'I' person, anyway? The presence of a visible author in statistical text. In R. Garner & P. Alexander (Eds.), *Beliefs about text and about instruction with text*. Hillsdale, NJ: Erlbaum.

Nolen, S. (1995). Effects of a visible author in statistical texts. *Journal of Educational Psychology*, *87,* 47-65.

Paxton, R. (1997). "Someone with like a life wrote it": the effects of a visible author on high school history students. *Journal of Educational Psychology*, *89*, 235-250.

Paxton, R. (1999). A deafening silence: history textbooks and the students who read them. *Review of Educational Research*, *69*, 315-339.

Paxton, R. (2002). The influence of author visibility on high school students solving a historical problem. *Cognition and Instruction*, *20*, 197-248.

Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education* (2nd ed). Upper Saddle River, NJ: Prentice Hall.

Pressley, M., Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Reeves, B. & Nass, C. (1996). *The media equation: How people treat computers, television, and new media like real people and places.* New York: Cambridge University Press.

Salomon, G. (1979). *Interaction of media, cognition, and learning.* San Francisco: Jossey Bass.

Salomon, F. (1984). Television is easy and print is tough: The differential investment of mental effort as a function of perceptions and attributions. *Journal of Educational Psychology, 76,* 647-658.

Scardamalia, M., & Bereiter, C. (1987). *The psychology of written composition.* Hillsdale, NJ: Erlbaum.

Scardamalia. M. , & Bereiter, C. (1991). Literate expertise. In K. A. Ericcson & J. Smith (Eds.), *Toward a general theory of expertise: Prospects and limits* (pp. 172-194). Cambridge, UK: Cambridge University Press.

Schwan, S., & Garsoffky, B. (2004). The cognitive representation of filmic event summaries. *Applied Cognitive Psychology, 18*, 37-55.

Schwan, S., Garsoffky, B., & Hesse, F. W. (2000). Do film cuts facilitate the perceptual and cognitive organization of activity sequences? *Memory & Cognition, 28*, 214-223.

Semprini, A. (2000). *Il multiculturalismo. La sfida della diversità nelle società contemporanee.* Milano: Franco Angeli.

Shanahan, T. (1992). Reading comprehension as a conversation with an author. In M. Pressley, K. Harris, & J. Guthrie (Eds.). *Promoting academic competence and literacy in schools*. San Diego, CA: Academic Press.

Sweller, J. (2005). Implications of cognitive load theory for multimedia learning. In R. Mayer (Ed.), *The Cambridge handbook of multimedia learning* (pp. 31-48). New York: Cambridge University Press.

Wineburg, S. (1991a). Historical problem solving: A study of the cognitive processes used in the evaluation of documentary and pictorial evidence. *Journal of Educational Psychology*, *83*, 73-87.

Wineburg, S. (1991b). On the reading of historical texts: Notes on the breach between school and academy. *American Educational Research Journal*, *28*, 495-519.

Author Note

Terry Inglese, Institute of Communication and Education and New Media in Education

Lab, University of Lugano (Università della Svizzera Italiana), Via Buffi 13, 6900

Lugano, Switzerland-CH

email: terry.inglese@lu.unisi.ch

Richard E. Mayer, Department of Psychology, University of California, Santa Barbara,

CA 93106, USA

email: mayer@psych.ucsb.edu

Francesca Rigotti, Faculty of Communication Sciences, University of Lugano, Via Buffi

13, 6900 Lugano, Switzerland-CH

email: francesca.rigotti@lu.unisi.ch

Footnote

1. The study included another visible author, the French anthropologist Claude Lévi-Strauss, but we did not include these data in our analysis because more than one-third of the students indicated on a post-questionnaire that they had prior knowledge about the author. The study also included a post-interview including thinking aloud protocols with 16 native language students and 12 non-native language students, but these data were not analyzed for this report.

2. Not foreseen in the experiment, the instructor made available a German transcription of the originally recorded Feyerabend interview in German to the German-speaking students, but it is not known how many--if any--German-speaking students read the translation. To further investigate this issue we reran all analysis without the German-speaking students, and obtained the same pattern of results as reported in the results section. For example, the mean score on the Feyerabend test (i.e. visible author test) did not differ significantly between native Italian speakers and non-native Italian speakers (excluding German speakers), $t(69) = 1.43$, $p =$ ns, whereas the mean score on the Semprini test (invisible author test) was significantly higher for the native Italian speakers than for the non-native Italian speakers (excluding German speakers), $t(69) = 2.65$, $p = .002$. Overall, we conclude that the pattern of results reported in the paper was not affected by this procedural error.

Table 1

Mean and Standard Deviation on Cognitive, Motivational, and Affective Outcomes for

Invisible and Visible Authors by Native and Non-native Language Groups

Type of measure	Invisible Author					Visible Author				
	Italian		Non-Italian		ES	Italian		Non-Italian		ES
	M	SD	M	SD	d	M	SD	M	SD	d
Cognitive outcome										
Score on exam	7.2	3.0	5.7	3.5	.45*	8.0	1.6	7.8	1.5	.11
Motivational outcome										
Number of words	160.5	86.1	111.6	90.2	.56*	150.4	57.6	155.2	67.9	-.07
Affective outcome										
Mentions of author	.61	.65	.32	.53	.49*	3.3	1.3	3.0	1.9	.18
Interest rating	3.2	1.1	3.2	1.4	.00	3.6	1.0	3.5	1.4	.08

Note. ES refers to effect size. Asterisk (*) indicates significant difference between Italian and Non-Italian speakers at p < .05.

Appendix A

English translation of the Feyerabend Interview

Question: Today scientists are considered as experts in a very important way, because fundamentally we need persons that understand what they are doing, but what do you think about this issue, after having demonstrated that science has its limits and that also could provoke problems?

Answer: Experts are today necessary, absolutely, and no question about it. There are people that know more in a domain area than others. But this situation does not mean that experts are perfect, but that they have information that can be true or false. But these experts need to be controlled, because very often they do mistakes. This means that where experts play an important role, we need an institution that judges them. Who judged the experts in the old Plato? The super-expert, the philosopher. During Plato's time experts existed and there were recognized as experts, but already Plato was conscious about the fact that an expert possess his perspective on things and that his philosophy is not possible to make it general. During the same period, and also before Plato, there was another idea: experts need to be judged by everybody.

Let's assume that in a certain area someone decides to build a nuclear reactor. Who concerns this decision? All the country, of course, because if – for any reasons - the nuclear reactor will explode the general catastrophe will touch everybody. But more significantly, the catastrophe will concern the people that are living just in the area of the nuclear reactor. Therefore it is necessary, before constructing the nuclear reactor, to organize meetings with experts, and different types of experts, need to share their judgements. But the last judgement is the one decided by the local population, and it needs to be a democratic decision.

Now many people are arguing: "These persons do not understand! They are not knowledgeable about this domain!". On the contrary, this people knows something, because they often dealt with experts.

When in a house, for example, rains through the roof, normally we call for an expert, a roof expert that will repair it. But, if we do not pay very, very much attention you will spend a lot of money, the expert will leave and from the roof water will continue to drop, more then before. Everybody had this experience. And additionally, it is the question of the destiny of this people. Experts are important, but the last decision has to be taken by the democratic organizations of this area.

Also in a trial the jury is composed of normal citizens. Experts submit to the jury their judgements on the process, but the last and definitive judgement is provided by the jury, by the lays that take into account and listen what one expert has to say, what is the perspective of the second expert and at the end they meet together in order to decide. But the last and definitive judgment is given by them, under the guide of another person, someone who knows the law, and therefore the citizens are the ones that decide and not the experts. And this way needs to be everywhere!

For example, it is interesting to know that in California the citizen's committees took position towards experts underlying the fact that the usual construction's methods are not valid for the nuclear reactors. Experts wanted to erect easily a big building in order to contain the nuclear reactor; but the citizens reacted against this idea of the experts, reminding the experts that the land of California is an area subjected to earthquakes, and that a geological examination was urgently needed before building the nuclear reactor. Citizens, and not the experts, were the one who insisted in order to require the geological examination of the area, because the experts were either nuclear experts, that didn't thought about a geological examination, or they were building experts, that had regard for the lowest precautions expected by the

California State's laws. But also the building experts did not undertake any kind of geological examinations. The citizens wanted them. Sure, also the citizens themselves could engage in mistakes in their judgements, but, at the end, they are the one that are primarily interested in the decision making process, and only their possible mistakes could be critical and conclusive about their own life, and not the mistakes of the others.