Relevance Criteria Used by Teachers in Selecting Oral History Materials[1]

Katy Newton Lawley, Corresponding Author

College of Information Studies, University of Maryland, College Park, MD, 20742.katyn@wam.umd.edu

Dagobert Soergel

College of Information Studies, University of Maryland, College Park, MD 20742.dsoergel@umd.edu

Xiaoli Huang

College of Information Studies, University of Maryland, College Park, MD 20742.xiaoli@wam.umd.edu

From a user-centered and task-specific perspective on relevance, we studied the relevance criteria used by teachers - an understudied but important group - who were searching for materials to use in the classroom to support learning on a particular theme. We observed teachers planning lessons and searching an archive of videotaped Holocaust survivor testimonies; the archive was created by the Survivors of the Shoah Visual History Foundation who interviewed 52,000 survivors and systematically cataloged the resulting testimonies. The teachers used a collaborative process to design lesson plans and search for appropriate testimony passages; they employed an array of relevance criteria that pertain specifically to teaching. The objectives implied in their criteria correspond to the teaching objectives described in lesson plans and teacher interviews, including connecting with students, representing diversity, and teaching tolerance. Our findings suggest user-oriented design approaches that support retrieval of instructional materials and collaboration in line with the needs and knowledge of teachers.

Introduction

Media selection for education is a special case of information retrieval; teachers approach the process with needs which direct their engagement in searching and evaluating candidate resources. In order to design information retrieval systems that help teachers select educational materials, we must understand what teachers look for and why. Developing and refining lesson plans requires several considerations and subtasks, including the selection of materials (text, software, video, etc.) that can deepen students' engagement with the subject at hand.

The nature of relevance assessment varies with the user, the task, and the situation (e.g., Choi & Rasmussen, 2002; Westbrook, 2001; Vakkari & Hakala, 2000; Hirsh, 1998). This paper contributes to the understanding of relevance assessment by describing the process by which eight school teachers generated and applied relevance criteria during a series of discussions and searches for curriculum materials. More importantly, it seeks to fill a gap in the information science research literature with respect to knowledge of educational media selection as a special variety of information seeking. The eight teachers we studied were tasked with using an oral history archive to find passages that could be used in the classroom to illustrate any of three major themes related to tolerance education. The criteria the teachers used reflect many of the practical and pedagogical subprocesses of creating lesson plans, from keeping class on schedule to modeling strength of character.

This paper first outlines the framework within which we conceptualize relevance assessment during media selection by teachers and then describes the setting and design of the broader study that this paper is part of. The core section discusses in detail the relevance criteria used by teachers during lesson planning and media selection. The paper closes with design implications and conclusions.

Conceptual Framework

Our conceptual framework ties together two concepts:

- Information seeking in context, in our case lesson planning and media selection, and
- Relevance assessment.

The details of the information seeking context drive the relevance assessment process and determine which relevance criteria are used. A rich understanding of the user's situation and the relevance criteria she uses will motivate system design that supports surface-level information seeking behaviors in terms of the underlying needs and characteristics.

Information Seeking in Context

Information science researchers study information seeking as a complex process, considering sub-processes, user characteristics, and system functionality. However, from the user's perspective, information seeking is rarely undertaken for its own sake. Rather, most users see information seeking as a means to fulfilling some goal, and each goal-situation has its own profile. In order to understand the user at the time of relevance assessment, we must seek to understand the reasons and objectives that lead the user to seek information as well as the ultimate uses she chooses for the information.

Lesson planning and materials selection as context

When developing lessons for the classroom, educators must define lecture topics, activities, assignments, and assessments. Teaching requires finding material that helps students learn the intended concepts and make them their own. Usually, curricula for K-12 courses are developed and chosen by someone other than the teacher, including professional instructional designers and school system administrators. However, Branch (1994) finds that many teachers engage in instructional design on some level, and state boards of education encourage teachers to customize materials and techniques to their students (Georgia Dept. of Education, 2004; California Commission on Teacher Credentialing, 1997; British Columbia Dept. of Education, 1992).

Teachers make a daily personal connection with their students and with the other teachers who work with the same students, establishing a small culture within each school. By personalizing classroom material for students, teachers increase the strength of students' connections to the material while gaining a level of credibility for presenting material that incorporates aspects of other classes, the local community, classroom diversity, and consideration of individual students' learning styles. Individualized approaches to instruction (Jenkins & Keefe, 2002; Voltz, 2003) emphasize the role of the teacher in tailoring instruction to the individuals in their classes.

The training and policy manuals that describe selection criteria for instructional materials usually list criteria on a general level, reminding educators to keep in mind such factors as accuracy, visual/auditory clarity, and logical arrangement of information. Additionally, educators are reminded to ensure that the instructional materials they select are appropriate to the students' abilities and compatible with the lesson topic (Sooh, 1992; Southern Regional Education Board). Applying these latter two criteria requires the educator to intimately understand the curricular objective and to evaluate each potential instructional resource according to said objective. These concepts that educators call selection criteria become what information scientists call relevance criteria.

Relevance Assessment

Schamber et al. (1990) describe relevance as situational and dynamic. By situational, they mean that relevance is a property of a document within a situation. A user's situation includes affective and cognitive stages (Kuhlthau, 1991) as well as task-specific goals and criteria (Ellis and Haugan, 1997; Brown, 1998). (This use of "situational" is not to be confused with "situational relevance," a topical/inferential relationship between a piece of information and some issue important to the user as defined by Wilson (1973).) The dynamic nature of relevance means that a user's conception of relevance is ever-changing as he moves through the information seeking process.

The user·centered view of relevance (e.g., Cuadra and Katter, 1967; Wilson, 1973; Schamber et al., 1990) recognizes that the user exists with a psychological reality in a specific situation and that changes in these factors can affect the nature of relevance assessment. Relevance judgments can be affected by such subjective factors as user's knowledge of the subject, his preferences, his stage in the information seeking process (Vakkari & Hakala, 2000), and his goals for the task at hand. Since relevance is evaluated so differently in different situations, information retrieval systems should carefully consider the needs and behaviors of target users.

In this paper, we define relevance criteria very broadly as any criteria that describe the information need, whether they are expressed in a query, an evaluation, or a conversation with another person. We have adopted this broad view because evidence of relevance criteria can be found in many places. Criteria that appear only in interviews or group discussions might be criteria that the teachers perceive as "inexpressible" during interactions with the information retrieval system.

Research Design

Research Questions

The research questions of the entire project are listed below:

- How do curriculum development and searching an oral history archive interact?
- How do teachers approach the task of searching an archive of oral history testimonies?
  - How do teachers decide which testimony passages to select? (addressed in this paper)
- What functionality does a retrieval system need to support material selection for curricular uses?

Research Setting: Teacher Workshop

The setting for this study was a teacher workshop at the Survivors of the Shoah Visual History Foundation (VHF) in Los Angeles, conducted in the summer of 2003 as part of the MALACH project. VHF was founded in 1994 and has conducted videotaped interviews with almost 52,000 survivors and witnesses of the Holocaust (VHF, 2004). VHF systematically cataloged and indexed the resulting testimonies in their Visual History Archive and developed a search system. VHF's mission now is to use this Archive for tolerance education. MALACH (Multilingual Access to Large spoken ArCHives) is a multidisciplinary, multi-institution research team working to improve access to the Archive through automatic speech recognition and natural language processing that feed into information retrieval systems.

VHF conducted the 2003 Teacher Workshop in order to work with teachers in developing an instructional product that integrates passages of Holocaust survivor testimony with modular lesson plans. Additional benefits of the workshop include VHF's outreach into the educational community and feedback from educators about the Archive and its search system. Five members of the MALACH team observed the workshop in order to learn about teachers' needs and behaviors during the completion of the lesson planning and media selection tasks.

Participants

VHF publicized a call for applications from middle school and high school teachers around the country, describing the Archive and the workshop task as an opportunity for teachers to work towards an important goal with other teachers in an exclusive setting. VHF paid all expenses related to travel, food, lodging, and conduct of the workshop, as well as a stipend for each teacher's participation. Applicants were selected based on their potential to contribute to the development of curricular materials, as might be seen from teacher characteristics such as classroom experience with teaching lessons related to tolerance and the Holocaust and experience with using primary sources in the classroom.

Furthermore, VHF sought to select teachers from geographically and culturally diverse school districts. While the selected teachers shared a passion for helping their students

to learn from the horrors of the Holocaust lessons of tolerance and character, they were diverse in most other aspects, including gender (6 women, 2 men), student population, geographical location, and comfort with technology.

Workshop Task

The teachers were given the task of developing an educational product that could be distributed worldwide to teachers who want to bring the powerful lessons of Holocaust survivors to their own students. The teachers and VHF staff jointly identified three major themes, and the teachers proceeded to develop lessons for each of the three themes. They are:

- Can one person make a difference?
- The power of language
- Character-defining moments.

Throughout the workshop, teachers worked independently and in groups to construct lesson plans that could be used to teach different aspects of the three themes. The final product from the workshop is an edited reel of testimony passages accompanied by lesson plans; each lesson plan includes a topic of discussion, assignments, activities, and one or more viewings of Holocaust survivor testimony passages.

After a day of orientation, the teachers spent three days in sessions during which they would alternate between searching the Archive for appropriate testimony passages and working in groups of four to design lesson plans. During each lesson-planning session, the group worked with one of the three themes. They spent time understanding the theme and finding topics that could be taught in the classroom, then they created activities and assignments to bring those topics to the students. During search sessions, teachers looked for testimony passages that pertain to the theme they had just discussed or were about to discuss in the group session. The teachers were encouraged to seek help from VHF staff in using the system and finding appropriate descriptors.

Teachers searched in a cached subset rather than the entire Archive. Approximately 50

testimonies were hand-selected for their applicability to the themes and their suitability for classroom use. The average length of a testimony is 2.5 hours; thus, the cache contained roughly 125 hours. The cache was created in order to ease the cognitive and computational strains associated with searching through tens of thousands of testimonies in 32 different languages.

Data Collection

The MALACH team collected data by quietly observing the teachers in their search and discussion sessions with as little interference as possible, while VHF staff acted as intermediaries and discussion guides. Lesson planning sessions, group discussions, and daily interviews with each participant were taped and transcribed. Additionally, we photocopied the notes taken by teachers and observers throughout the workshop. During search sessions, teachers filled out a "Testimony Segment Worksheet" for each passage they watched of a Holocaust survivor testimony. Brief and structured, these forms prompted participants for a summary of the passage and its value for the final product.

Coding and Data Analysis

Table 1. Broad outline of the current coding scheme

Interaction between searching and lesson planning
Specific themes (aforementioned teaching themes)
Lesson plan element
    Activity
    In-class discussion
    …
    Sequence of lesson plan elements
Students' learning
    Character education
    …
    Tailoring to student characteristics
Group discussion and lesson development process
    Teachers negotiate educational approach
    …
    Theme definition
Teachers' searching
    How teachers approach searching
    …
    Relevance judging
System requirements and critique
Implications
    Indexing
    ASR and NLP research
    IR/ISP research
    Interface design
Workshop process

The initial scheme of "start codes" was based on the research questions and on the topics addressed in interview questions and worksheets (Miles & Huberman, 1984). During the coding process, new relationships among concepts emerged, and the coding scheme was adapted. Table 1 shows the broad outline of the current coding scheme. Table 2 shows an expanded view of the portion of the scheme most relevant to this paper: the relevance criteria. The data codes distinguished whether a given criterion was applied in an explicit statement of the information need or in the assessment of a

passage. This distinction does not necessarily indicate that an information need was expressed in a query; indicators of information needs could be found throughout the different data sources.

During the workshop, the observers met daily to share insights and refine observation and interview protocols. Throughout data analysis, codes were initially assigned by one analyst, then selectively reviewed by a team member. Finally, we used different kinds of data (interviews, lesson planning transcripts, worksheets) to check across participant experiences that our observations were accurate and stable.

Findings: Lesson Planning as a Context
Teaching Objectives

During lesson planning sessions and interviews, teachers discussed teaching objectives at several different levels, indicating their conceptualization of objectives as complex and layered. Teachers sometimes discussed broadly the objectives of tolerance education and character development. At the narrowest level, teachers discussed the objectives of specific lesson plan elements and how they might feed into the teaching and learning of larger lessons. Teachers understand that they need to learn about and connect with their students in order to parlay those connections to broader teaching goals.

> T1: I think one of the positive things of brainstorming is that once people tell their stories, you'll get a sense of what their definition is of the things, which, I think, can be used as a tool for us getting on the same page and moving to the next step. So, in my mind, I'm thinking as a brainstorming session, have students, you know, do reflections or write stories.

> T2: Journal entries?

> T1: Yeah, journal entries, something to get like that, to get a sense of, you know ...

> T2: Journal entries I think are really good because then it also gives you a

connection to your student and you can respond to them.

We see in the preceding passage that teachers actively look for opportunities to connect with their students on a personal level. List (2001) and Goodson & Norton-Meier (2003) promote classroom techniques that connect students with their teachers and with the material. These connections can be made by inviting students to discuss the material in the context of their personal experiences (List, 2001) or by encouraging students to connect in-class content (such as literature or history) with elements of pop-culture (Goodson & Norton-Meier, 2003). Many of the teachers' relevance criteria can be seen as ways for them to establish these connections with students

Searching, browsing, and lesson planning

The most salient features of the lesson-planning/media-selection process we found are:

- a bi-directional influence between lesson planning sessions and search sessions,
- heavy use of browsing by teachers,
- use of generic or non-specific survivor scenarios as query/evaluation frameworks, and
- task-specific relevance criteria.

As lesson planning and searching activities progressed throughout the workshop, the teachers began to bring the products from one process into the other, creating a bi-directional influence between teaching and lesson planning: Watching testimony passages during search sessions gave teachers ideas for specific topics to bring to the classroom, and the lesson-planning process gave teachers ideas for specific kinds of experiences to search for in the Archive.

The combination of a pre-selected set of testimonies (the workshop cache) and the teachers' approach to finding suitable passages resulted in a satisficing strategy (finding acceptable passages) rather than an optimizing strategy (finding the best passages). Many of the teachers' selection criteria could not be expressed in terms of the VHF Thesaurus descriptors. Under these circumstances, browsing through the actual

testimony is the best strategy to use. Even when descriptors are easy to find, some teachers reported that they preferred to explore and browse the Archive rather than use descriptor searches.

During lesson planning, the teachers sometimes described in generic terms the kind of story they wanted to include in the lesson, hoping to find such a story in the Archive later on. These story frameworks arose when teachers integrated their general knowledge about the experiences of Holocaust survivors with their concepts of teaching a theme. For example, in the discussion of *Can one person make a difference?*, one teacher said,

> "I had a vision of somebody stepping up, you know, standing out and leading the group of people in a particular direction. That was my vision, and so when I went searching in the testimonies, I wanted to find someone who did that, who stood up as a leader for a group of people. And the testimony I found was that."

Such story frameworks guided the search and also were used in assessing the relevance of a passage.

Findings: Relevance Criteria

Table 2. The relevance criteria

1	*Relevant to teaching content and method*
1.1	**Relationship to theme**
1.2	*Fits into broader curriculum*
1.2.1	Relates to other schoolwork
1.2.2	Variety for the classroom
1.2.3	*Vocabulary
1.3	*Characteristics of the story*
1.3.1	*Positive message for students
1.3.2	*Role of interviewee in Holocaust events
1.4	*Relationship of story to student*
1.4.1	*Students connect with passage
1.4.2	*Students identify with interviewee
1.4.3	*Radical difference fr. students' reality
1.5	*Represents different populations*
1.5.1	*Age of interviewee at time of event told
1.5.2	*Race
1.6	*Characteristics of oral history interviews*
1.6.1	Expressive power
1.6.2	*Language & verbal expression
1.6.3	*Nonverbal communication
1.6.4	Diction
1.6.5	*Flow of interview
2	**Appropriateness**
2.1	Developmental appropriateness
2.2	*Acceptability to stakeholders
3	**Length-to-contribution ratio**
4	**Technical production quality**

Teachers used many different criteria in defining their information needs and assessing the utility of testimony passages (Table 2). These relevance criteria are here discussed with respect to the selection of testimony passages, but many clearly apply more broadly to the selection of lesson topics, activities, and other kinds of materials. Criteria marked with an asterisk (*) indicate items that we did not find identified in the literature. The prevalence of novel criteria indicates the scarcity of studies of teachers' selection processes. In order to understand the relevance assessment process as

experienced by the teachers, we organized the criteria according to a framework that reflects teachers' media selection techniques (gathered from: Southern Regional Education Board; Lu, 2003; British Columbia Department of Education, 1992; Sooh, 1992). The vast majority of our criteria fell under *Relevance to teaching content and method*; the subcategories emerged from the data and provide a much-needed specification of this overly broad category.

These findings are likely specific to tolerance education. History teachers searching the same collection might put more emphasis on topical relevance relationships, as do the researchers who were studied by Kim (forthcoming) and by Huang and Soergel (2004). In these earlier studies, the participants were history scholars and information scientists who searched the same Archive discussed here. They were found to search on more factual, event-based aspects, compared to the teachers' more thematic or emotional aspects.

The criteria are presented below within the established framework with discussion and examples.

1. Relevant to Teaching Content and Method
1.1 Relationship to Theme

This is the most frequently used criterion. More often than not, it was applied in conjunction with at least one other criterion, indicating that *Relationship to theme* is not by itself a sufficient condition for selection.

> "I thought that was a true nugget of what we're looking for and a character-defining moment, when something takes you by surprise. 'Why are you trying to beat me up just because I'm a Jew?' And then how you react to that, that kind of unsettled, you know, this equilibrium kind of being off balance."

> "It is a good segment. Name calling shows that language can label people. Demonstrates this negative use of language to mark differences. Could segue from 'Power of language' to 'Difference.'"

1.2 Fits with Broader Curriculum

1.2.1 *Relates to other school work.* Many times, teachers mentioned the value in finding passages that relate to other work that students are doing, either in the teachers' classes or in other classes. This indicates that teachers want to provide students with some continuity of material so that they may establish relationships and connections between the lessons in tolerance and other lessons they learn in school.

> "In eighth grade I am dealing with the Holocaust through literature. You know, it might be Night, it might be *Anne Frank's diaries*. So these are the things that I am looking for. And I will tell you right now that just personally, one thing I would very much like to see come out of here are reels that somehow specifically relate to various pieces of literature."

> "You know, what was the character-defining moment in *The Black Pearl* or whatever it is you're reading. You know, kind of relating that, just doing the drawing upon prior knowledge, that whole shtick of making it a good segue. Drawing, and if we could put that on there, draw upon prior knowledge for character-defining moments for things you've already studied that year ... You know, just kind of to create a discussion."

1.2.2 *Variety for the classroom.* This criterion balances the continuity objective with variety. While tying elements of one lesson or class into another helps students to connect the material to different situations, too much redundancy can leave students bored. Hence, teachers want to make sure that students are exposed in their tolerance lessons to different kinds of testimonies.

> "I looked for a liberator and went to his testimony because I thought a lot of people would be looking at things that happened during the war, and I really wanted to look at a liberation example, just to add some variety to what we had."

> "You wouldn't want all children during the war, or you wouldn't want all adults. You

know, men, women, you would want kind of a variety."

1.2.3Vocabulary. Teachers identified or created opportunities for students to learn vocabulary at every stage in the lesson planning process. Vocabulary was one of the most frequently mentioned lesson plan elements. Sometimes, teachers looked for vocabulary terms that were used directly in the testimony passages, while other times they used the themes of the passages to teach more conceptual vocabulary terms.

"This testimony definitely should be included ... VOCAB is distinguishable."

"Vocab term: *Kosher, Shabbis.*"

"When we were in the writing group and we were developing the lesson plan and the activities within the plan, we were really focusing on what vocabulary needed to be highlighted to engage the students and the overall theme. And the vocabulary we came up with is very different from the vocabulary that's used in the Archive search engine because we talked about vocabulary like, What does *courage* mean? What does hero, what's the definition of a *hero*?"

"Well, you might want to think about the kind of responses or words, adjectives. I don't know exactly, but something that they might use to interpret. How might they interpret what they're seeing in words? So, you might want to put like, maybe find a bunch of adjectives or something, put them on the board, and then have the kids connect certain adjectives to what they're seeing."

1.3 Characteristics of the Story

1.3.1 Positive message for students. In discussions and searches pertaining to the theme, *Can one person make a difference?*, teachers articulated the importance of presenting positive messages to the students. While the events of the Holocaust are wrought with horror and tragedy, there are many stories of survival, compassion, and heroism. The teachers never articulated a criterion for tragedy, although some of the passages in the final reel relate incidents of abuse and intolerance. They did, however, specifically seek and select positive stories.

"Even in that whole discussion about unsuccessful versus successful attempts [at escaping], I was like, okay, I don't want any unsuccessful ones because my students would look at that and say, 'See? Why should I try to make a difference when it was unsuccessful?'"

"Dr. _____, her 'hero;' his mission was loving children. Her first love was books. His books were about children. Knew him before the war. He had an orphanage. He was a father to so many children. Love · children felt for him, called him father. Very strongly [recommended]. WOW needs to be in here!"

"It's more important to me that they become people who will make a difference than that they remember that Poland was invaded in 1939."

1.3.2 Role of interviewee in Holocaust events. Not all of the interviewees are survivors; there are also witnesses and helpers who participated in hiding and liberating Jews and other persecuted people. Teachers wanted to convey different kinds of experiences of the Holocaust and to share stories of these events with students. To show the perspectives of those who helped *and* those who were helped, teachers sought variety on this dimension in the people whose testimonies they selected.

"If we're developing this testimony reel, that really moves me more towards teaching tolerance and less towards teaching Holocaust education. A lot of these testimonies that we shared in our groups have been first-person testimonies of survivors and character-defining moments of survivors, which is great, but is there room for this kind of discovery and discussion of tolerance from a non-survivor? This testimony [from a liberation soldier] was equally compelling but in a different way."

1.4 Relationship of Story to Student

1.4.1 Students connect with passage. A major educational value of oral histories is the human connection students can make with people who lived during historical events and periods. Students see that people have stories and legacies, and they see that the history they learn in their textbooks is produced and experienced by real people. Several criteria approach or enhance this sense of connection, such as *expressive power* or *positive message for students*, but at times, teachers specifically mentioned the

valuable connection to a human story.

"That's the strength of the testimonies, especially in teaching and in working with the kids, that that's how my kids, my population, that would be what I would be going for: the human connection. Because I know that if I can find testimony that my kids can connect to, as just one human being to another, that would be the strongest teaching tool that I could find in my classroom."

"What the testimony does is it lets me contextualize the [language arts and literature] content. It gives them this very human, real experience ... It connects them to human history. It connects them to the history of our country, our culture. And it connects them to the rest of the world."

1.4.2 Students identify with interviewee. The connections a student makes with an interviewee can often be found by using passages that relate events and details that students can directly identify with by virtue of their commonalities with the interviewee. This would be in keeping with culturally relevant (Gay, 2000) or constructivist (Brooks, 1990) approaches to teaching that bring to students lessons and examples that they can tie to their own experiences. In order to find these commonalities, this criterion is frequently mentioned in tandem with demographic characteristics, such as *age of interviewee* during *Holocaust events* or *race*.

"I know my students, who are predominantly African-American and Latino, they like to hear from people of their own races. You know, what did you do, and model that ... But that's my motivation. People who live like me talk about their experience."

"The way she spoke was just so beautiful. Here she is, this older lady, but she became a 16-year-old girl when she was talking, and I saw her in her school uniform on the day of graduation. She was so proud of the way she looked, and she felt so sophisticated ... Then her boyfriend comes along and says, 'Oh, you know, you like a little girl in that uniform.' ... What 16-year-old girl is not going to connect with that experience? An immediate connection, an immediate empathy, and they're going to want to know where she is today. They're going to want to meet this lady if they can."

"[Interviewee] went to Dr. for 'health check' to go to school, just like you go to get your shot records. The Dr. said he was 'physically & mentally underdeveloped so you can't go to school.' Because he was a Jew ... It fits well."

1.4.3 Radical difference from students' reality. On the other hand, teachers sometimes looked for interviewees whose situations were radically different from the student populations' to encourage students to think outside the context of their own lives. In the following passages, two teachers express their desires to find testimonies with people who are unlike their students.

"My students have a really, for the most part, safe life. They come from a background of privilege in all areas. They're in the mainstream. They're bright, and they're middle-class, and they're in the predominant group as far as religion and race and everything else. But they tend to start thinking is that they're doing well because they're good people, but I want them to identify with experiences that other people have."

"I want them to think about individuals and realize this happened to people. My students are, I think, about 95% Latino, all Catholic, all girls. So it's a limited population. And sometimes it's hard for them to think outside of that context, outside the context of their own neighborhoods."

1.5 Represents Different Populations

Criteria in the *Represents different populations* category serve the dual purpose of representing members of the classes' different cultural groups while also trying to model for students the diversity of people found in the "real world." Teachers also look for interviewee characteristics that are similar to those of the student population.

1.5.1 Age of interviewee during Holocaust events. When teachers discussed ways for their students to identify with interviewees, they most often mentioned age. Many aspects of growing up and experiencing adolescence are universal, and the teachers knew that finding examples of typical teenage experiences would help students to connect with

other aspects of the material at hand.

> "If I could find people talking about experiences that occurred when they were 13, 14, 15, 16 years old ... I think that that's very powerful for the kids to see. You know what, even if somebody lived in 1430 or 1942 or 2000, all teenagers have the same realm of reference in our world, regardless of what's happening."

> "'15 years old. No longer allowed to go to school. The biggest punishment for me. Lost all my friends, normal life, and all 'teenage fun' overnight.' ID with students!"

1.5.2 Race. Since a person's cultural identity is often associated with her race, both purposes of representing different populations can be achieved by selecting passages that reflect a range of racial groups. One teacher actively sought this kind of diversity throughout his workshop searches.

> "I'd love to find a black Jewish person or someone of African descent who made a difference ... because the population that I deal with in my school is predominantly African-American and Latino, and so for them to see other people of African descent making a difference, a positive difference, is always a plus."

> "The African-American soldier ... once I got there, it was just fabulous. It was just what I was looking for to a large degree."

1.6 Characteristics of Oral History Interviews

1.6.1 Expressive power. One of the benefits of using oral history in the classroom is the poignancy with which human stories can illustrate the lessons of history. To maximize this effect, teachers want to find emotionally moving passages that will engage students with the interviewees and their stories. Indeed, in some cases, a factually compelling story could be rejected because of the lack of expressive power. Expressive power is found in both the verbal and nonverbal aspects of testimonies.

> "She, she, you know, had some facial expressions that were really, like, compelling."

> "The interview was not quite what I was looking for. It was a little bit flat ... and

we're looking for the emotional, or you know, mental edge."

1.6.2 Language and verbal expression. One specific way expressive power can come across is through the kind of language an interviewee uses while telling her story. Additionally, teachers can show students by example that communication is found not just in what one says but in how one says it. By seeing examples of powerful or interesting language, students can learn some of the nuances of verbal behavior.

> "[Interviewee] responds to query, 'How did your life change when the Germans came in?' Good language; metaphors; Good narration."

> "Remembers writing a story of how she would like to be a 'bird and fly away from this terrible place.' Language to liberate."

1.6.3 Nonverbal communication. Another variety of expressive power is nonverbal communication. This became the topic of one class period under the theme, *The power of language*. The activities for the nonverbal communication lesson involve watching a passage of testimony with the sound turned off, then discussing what kinds of information can be found without hearing the words of the interviewee. Students would then watch the same passage with the sound turned on and discuss how their observations of the nonverbal communication coincided with the verbal message. Again, powerfully delivered communication adds force to the passage while teaching students that they communicate nonverbally, too.

> "You could see them like, gulping for air or something, you know, or like not knowing what to do. Maybe reaching for a glass of water, but it's not like you want water ... I think that those moments are so powerful that the kids will pick right up on it because kids know more than anybody about like, when you can't even control physical movements, like especially in middle school."

> "A powerfully emotive segment that will work wonderfully if we seek a piece to mute for non-verbal communication. Her hands, facial expressions, and ultimately her tears, speak volumes with sound turned off."

While teachers needed to find passages with good examples of nonverbal communication, some of them perceived this as an unsearchable attribute.

> "The examples I found of nonverbal language were always accidental because there's no way to search."

1.6.4 Diction. While engaging or powerful language can increase the appeal of a passage for use in the classroom, teachers also notice the quality of interviewees' diction. In order for students to appreciate the stories, they must be able to understand what is being said.

> "Only hesitation for inclusion: muffled speech. Students might find difficult to understand."

> "Enunciation is very GOOD!"

1.6.5 Flow of interview. The instances of this criterion in our data all pertain to instances of the interviewer interrupting the speaker.

> "Interviewer was probing. [Interviewee] had short takes. Interviewer interjected too much! Need to edit for complete thoughts."

2. Appropriateness

2.1 Developmental Appropriateness

Teachers realized the importance of presenting age-appropriate material to their students. Developmental appropriateness is determined by considering several student characteristics (attention spans, world experience) and material content (descriptions of violent or sexual events).

> "I would eliminate some of the ones that are too graphic and too much for adolescents and pre-adolescents. One thing I worry about always is that they get all involved in the violence and horror of it, and get carried away with that instead of really remembering that these are human beings ... I would eliminate ones that deal with subjects that I don't want to get into the classroom. Sexual encounters in the

camps and things like that."

"[Rejected from final reel because:] Too much stuff you'd have to explain."

2.2 Acceptability to Stakeholders

Teachers are not the only judges of what might be appropriate for children to see and do in the classroom. Parents and school administrators are also on teachers' minds as they select content with the knowledge that their decisions might come under scrutiny. Education occurs with in a complex social and political structure, and teachers understand the effect that curricular decisions have beyond the school's doors.

"I'm not going to include something in my classroom that's going to take away from what I'm already doing. I don't want a sidebar controversy to interfere with what I'm doing, so I would eliminate segments for [graphic content]."

3. Length-to-Contribution Ratio

With class times and attention spans running short, it is important for selected passages to deliver maximum contribution to students' learning for the length. The length of a passage alone cannot be an indicator of a passage's suitability, since especially illustrative or powerful stories will be worth a greater percentage of a class period.

"Very strongly [recommended for inclusion]! Sound bite 5 seconds long! Short/direct to the point."

"Short but effective. Strong."

4. Technical Production Quality

All of the media selection guides we reviewed mentioned the importance of production quality. This criterion refers to the technical qualities of a passage that make it

perceptually clear and understandable to its audience.

"Very good testimony ... Sound low."

"Problem: grainy picture!"

Design Implications and Conclusions

While many discussions take as a given the primacy of topical relevance, Cuadra and Katter (1967) find that different situations yield different views of the relevance picture. In the particular view of teachers searching for tolerance-related teaching materials, topical matches were insufficient to describe the relationship between a teaching theme in its pedagogical context and the survivor testimony that might convey that theme. In his review of the relevance discussion throughout the twentieth century, Mizzaro (1997) declares that many relevance criteria go beyond indicators of topicality. Our findings reiterate that relevance is highly complex and involves dimensions beyond just topicality (which itself is multifaceted, as shown, for example, in Huang & Soergel, 2004; Green, 1995).

Media selection for teaching is a unique type of information seeking, with specific criteria that carry implications for indexing and retrieval of instructional materials. The objectives implied in the selection criteria correspond to the teaching objectives described in lesson plans and teacher interviews. Considered together with their searching and lesson planning behaviors, teachers' relevance criteria are a valuable inspiration for user-centered, systematic access to educational media. Some of the teachers' relevance criteria suggest directions for advanced research in language processing. An ASR (automatic speech recognition) system could be tuned to increase recognition probability for a specified list of vocabulary words. Improvements in emotion detection from speech and video may make it possible to tag passages with expressive power. Passages for which an ASR system indicates higher confidence in its transcription may have good diction. An automatic classifier based on training data indexed by teachers might be able to tag passages by relationship to a theme (given a list of themes), age appropriateness, and other attributes. The classifier could use as

indicators automatically recognized words as well as other sound and video features.

In order to support educators in the selection of classroom materials, the approach to access must be very different from that provided to other types of users, such as scholars or other professionals. Information retrieval systems must include cataloging and query facets that correspond to pedagogical objectives. Several design approaches could achieve this result. For example, products with relatively small, hand-selected collections could give teachers the power of choice while relieving information overload. Web and DVD technologies make it possible to present menu-driven selection of instructional materials that have been organized according to facets such as theme, grade level, cultural perspective, and relationships to other materials (e.g., literature).

An even more interactive system could allow teachers to collaboratively index instructional materials with agreed-upon or project-specific descriptors. Over time, teachers will use materials in novel ways, which they can describe to other teachers by indexing materials by the themes or perspectives they have used in the classroom. This would lead to a system of indexing by teachers for teachers, preserving the products of intellectual work and making them available for reuse. Such a system could have novice and advanced search options. The novice search would start with a screen that shows major themes associated with the collection, possibly arranged as a concept map. Clicking on a theme would lead to a small, edited sequence of materials with descriptive pointers to other materials that support the theme's narrower terms (e.g. Power of language ' Nonverbal communication) or its orthogonal facets (e.g. Power of language ' Middle grades curricula). The advanced search option would offer a full complement of search features, including thesaurus-based searching. Added value features might include links from themes to thesaurus terms, timelines, maps, and links to Web sites with context information.

The important design principle behind these ideas is to allow teachers to navigate and explore collections of instructional materials from any of their stated task-oriented perspectives: lesson theme; specific works of literature; subject (art, music, history); pedagogical approach; length of teaching unit; and lesson plan element (class activity, homework, vocabulary terms). Teachers should be empowered to combine browsing and searching capabilities as they think appropriate, since they enter the search process

with variable levels of query specificity. Having access to collections that are richly cataloged and organized from a teacher- and student-oriented perspective - and that support and profit from collaboration - would allow teachers to use their cognitive energies in the classroom, instead of in a document-oriented retrieval system.

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Notes

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