How effective is the Department of Health's leaflet on *HIV/AIDS Counselling* for low literate South Africans?

Adelia Carstens & Maritha Snyman

Comprehension of what is communicated in a text can be tested to check a text's effectiveness. In most text types, including persuasive texts, comprehension is the prerequisite for successful information processing. In this contribution the effectiveness of the South African National Department of Health's multilingual leaflet on HIV/AIDS Counselling is evaluated. The questions posed were about whether low-literate South Africans could comprehend and remember the message in the leaflet. Structured interviews were used to research these possibilities when low-literate African language speakers had read them. It was found that the majority of the respondents was not able to recall the main points of the message, or to formulate the content of key paragraphs in their own words. Despite possible inherent errors in the research design, our conclusion was that the leaflet is not effective in conveying its message among low-literate South Africans. The confusing outer structure of the leaflet and prior knowledge based on cultural understanding of the topic might have caused a cognitive overload for the readers and made the message incomprehensible to them. On the basis of our findings we designed a checklist which translates comprehensibility and memorability into textual characteristics which are measurable. This instrument can be of assistance to document designers who have to evaluate such characteristics in materials for low-literates.

1. Introduction

In general, in health awareness campaigns and health interventions designed for people in so-called 'development contexts', to determine whether the message being delivered is effective or not, the question is whether people *comprehend* it. Comprehension, which includes paying attention, understanding and remembering the message, and being motivated to change behaviour which may pose an

individual or a societal risk, is at the core of all information-processing (McGuire, 1972: 116; Hoeken, 1995: 4; Mody, 1991: 187; Doak *et al.*, 1996: 169; Schaalma *et al.*, 2001: 83).

The aim of the study was to determine the communicative effectiveness, with special emphasis on comprehensibility, of a particular mass media message. The text was the South African National Department of Health's (henceforth DOH) leaflet on *HIV/AIDS Counselling*. The reason for focussing on this leaflet was our discovery of the discrepancy between our own findings during a focus-group discussion of this leaflet at a community centre in Pretoria during 2001, and the general findings of the Aids Action Office (henceforth AAO) which is the primary provider of products and services of the HIV/AIDS and STD Directorate of the national DOH. The AAO's findings on the quality of the DOH's brochures dealing with aspects of HIV/AIDS contrasted profoundly with ours.

During our focus-group interaction with low-literate patients randomly selected at a community centre near Pretoria, none of the participants was able to summarize the key ideas of the brochure after being given sufficient time to read through the leaflet. Neither was anyone able to give the meaning of certain important paragraphs adequately in their own words. Our preliminary findings were very different to the AAO's findings, namely that all eleven DOH brochures were written in an easily understandable way; explained things well and helped as stand-alone information resources (Hurt, 2000: 18-19).

To shed some light on the problem of comprehension of the DOH's brochure on *HIV/AIDS Counselling*, a research project of restricted scope was undertaken with the assistance of postgraduate students in Development Communication at the University of Pretoria. This article reports on the research project in the following way: First there is an outline of the role of the DOH in planning interventions to curb the spreading of HIV/AIDS – with special emphasis on the measures put in place to ensure effectiveness of the measures. This is followed by an overview of criteria for effective evaluation, a description of the research project, a summary of the results, and a proposed set of heuristics for designing or evaluating the content of health awareness materials aimed at low-literates.

2. The HIV/AIDS crisis in South Africa and the national government's response

2.1 Epidemiological facts

HIV/AIDS is currently among the top ten causes of death worldwide and may soon move into the top five. There is still no vaccine against HIV and, although antiretroviral medicines are improving, there is no cure for the disease.

South Africa is one of the countries with the highest infection rates in the world. It is estimated that more than 50 000 South Africans are infected each month. The

most recent epidemiological study by the South African Medical Research Council (September 2001) indicates, for example, that 4,2 million South Africans (19,9% of adults) are currently infected with HIV, making South Africa the country with the most people living with HIV (Varga, 1999; DOH, 1998; 2001; LoveLife, 2001.

2.2 Intervention programmes

In 1992 the National AIDS Co-ordinating Committee of South Africa (NACOSA) was launched with a mandate to develop a national strategy on HIV/AIDS to curb the spread of the disease. The goals outlined in the committee's plans were to prevent HIV transmission; reduce the personal and social impact of HIV infection; and to mobilize and unify resources. In 1997 the South African National STD & HIV/AIDS Review was conducted in line with the goals outlined in the NACOSA plan.

Subsequent to the publication of the Review, some of the recommendations have been addressed, for example, the development of an HIV/AIDS policy by the Department of Education for learners and educators; the establishment of the South African AIDS Vaccine Initiative in 1998; the establishment of the South African National AIDS Council; and the Development of a Strategic Plan initiated by the Minister of Health in 1999 to guide the country's response to the epidemic (DOH, 2000: 1-6).

One of the most important initiatives in communication which flowed from the NACOSA plan was the *Beyond Awareness Campaign*. This campaign ran from 1997 to October 2000, and focused on advertising, materials development, training and research. One of the overt objectives of the Campaign was to "develop and distribute communications resources that can support action around HIV/AIDS" (Hurt, 2000: 1; DOH, 2001).

Out of research conducted during the first phase of the *Beyond Awareness Campaign* the AAO grew a service which included provision of a wide range of key materials to organisations and individuals throughout South Africa. These materials included posters, calendars, booklets, leaflets, stickers, flipcharts and utilities.

Although money was spent on all of these materials, the bulk of the small media budget was spent on leaflets. This is illustrated graphically in chart 1 below:

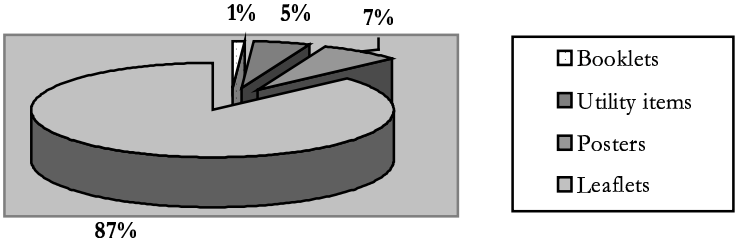

Chart 1: Intervention materials by the DOH distributed from January to December 1999 (Total: 12,03 million items):

R1 500 000 alone was spent on printing a set of 11 multilingual public information leaflets dealing with a range of key topics during the period November 1998 – October 1999 (Hurt, 2000: 13; DOH, 2000: 13), including *Key points about HIV/AIDS*; *Male condoms*; *Female condoms*; *HIV/AIDS and relationships*; *HIV/AIDS and the workplace*; *HIV/AIDS and STDs*; *HIV/AIDS and rights*; *HIV/AIDS Counselling*; *HIV/AIDS and TB*; *Living with HIV/AIDS*; *Caring for people with HIV/AIDS* (DOH, 2000: 14).

Since 1999 print runs have been supplemented by the Government Printer and funded by the HIV/AIDS Directorate (Hurt, 2000: 14). The exact amount spent on additional print runs is, however, not known.

2.3 Evaluation research by the AAO

One of the overt objectives of the *Beyond Awareness Campaign* was to "conduct research related to communications and evaluation of various aspects of the campaign" (Hurt, 2000: 1). For this purpose interviews were conducted with twenty-seven 'users' of the AAO. Selection was based on a review of the distribution database for the period January to December 1999. Respondents were selected specifically to include "regular users, once-off bulk users and organisations which had ordered a wide range of materials" (Hurt, 2000: 7). The users included media co-ordinators or liaison officers of provincial departments of health, hospitals, district health services, professional health bodies, local AIDS centres and NGOs. According to Hurt, "There was great appreciation for the range of materials available through the *Beyond Awareness Campaign*"; and, "Respondents who worked with a range of audiences specifically said that there were materials that met a wide range of needs" (2000: 17).

According to the text evaluation specialists De Jong & Schellens, (1995: 77) 'target group experts' (such as the clients of the AAO) are valuable resources in the design of messages. Since they work with the effects of texts these experts may be aware of the inadequacies of a text, particularly of its comprehensibility and comprehensiveness (De Jong & Schellens, 1995: 77).

However, text evaluation by target group experts cannot substitute evaluation by the target audience itself. The importance of feedback from target audiences is a consideration that cannot be ignored, also because of the increasing shift towards participatory communication in health interventions (Bordenave, 1994; Servaes, 1999; Khadka, 2000). Dagron sums it up well, thus, 'The main elements that characterize participatory communication are related to its capacity to involve the human subjects of social change in the process of communicating' (Dagron, 2001: 33). This approach suggests that end-users should, at least, be included in the pre-testing and evaluation phases of message design (Mody, 1991). A research process

which does not include end-users in any phase of its unfolding must have questionable limitations.

A particular problem with the data provided by the 'user' interviews of the AAO is that they lack specificity with regard to scope (To which leaflets does a particular comment apply?) and generalizability (How many respondents made a particular comment Among the responses were the following (compare Hurt, 2000: 18-19). The leaflets:

- catered for different language groups;
- catered for various audiences;
- covered the range of issues which people currently face;
- provided basic, valuable information, which answered people's most basic questions;
- promoted good messages, assisted people in getting the facts right, and in clarifying myths;
- promoted awareness, and helped people face realities of HIV/AIDS;
- supported people who were HIV positive;
- explained things well;
- helped people deal with their fears, and helped them know what to do;
- helped people negotiate and cope in whatever environment they were in;
- provided support as supplementary materials in HIV/AIDS programmes and activities, for example in workshops, training, school curriculum, and counselling;
- helped as stand-alone information resources when, for example, prisoners or students did not want to discuss the issues with warders, teachers or parents;
- prompted people to ask more questions;
- were written in an easily understandable way;
- showed the government supports the struggles around HIV/AIDS; and
- could be used to help build organisations.

The research method of interviewing only intermediaries, rather than the targeted group, is the probable cause of the generalising tone of the reported responses. A document designer who wishes to focus documents on users as opposed to some other principle, and is committed to user-centred revision, would ask questions like the following:

- Which comments refer to which leaflets/sections of leaflets/characteristics of one or more leaflets?
- How many respondents made similar comments?
- Has the literacy level of end-users been given any consideration?

No microtextual information is provided by the feedback which could assist researchers and document designers to learn from their mistakes and tailor messages for specific audiences. One of the necessary tools in testing effectiveness

of communication must surely be the possibility of revising documents to make them comprehensible. It would seem that the research from the AAO on the effectiveness of a leaflet was not aimed at eliciting whether it was a successful communication or not, but rather at establishing what people thought generally about its existence, and to satisfy the procedures of the AAO's mandate. A responsible stance for government to take, would be to commission independent research into the effectiveness of the awareness documents it distributes, both during the formative stages and by way of summative evaluation (research on the effect of the communications).

3. Goal-centred evaluation

Few African countries boast HIV/AIDS communication programmes of the sophistication and scope comparable to that of the *Beyond Awareness Campaign*. One does not need to look any further than the HIV/AIDS and STD Directorate of the DOH's comprehensive manual on communications, entitled *Communicating beyond AIDS awareness* (Parker, Dalrymple & Durden, 1998). However, not all the ideals formulated in this document have been fully realised. Although one of the overt aims of the communication plan was to evaluate materials during production; involving experts, intermediaries (health workers) and end-users (Parker, Dalrymple & Durden, 1998: 38, 44), no evidence could be found for the involvement of authentic end-users in either pretesting or conducting evaluation research. One of the possible reasons for this omission could have been the lack of clear evaluation goals.

Important reasons for evaluation are accountability, learning for the future, theory-building and ethical considerations. According to Dijker *et al.* (2001: 134) the decision to evaluate an intervention, and what type of evaluation would be appropriate, depends on the reason for evaluation. The reasons for evaluation in the case of the brochure under discussion could be categorized as follows:

- **Accountability** is the most obvious reason for evaluation in the context of health promotion. Health promotion interventions require substantial financial and human resources and evaluation research tells the commissioning organization whether these resources have been utilized wisely, effectively and efficiently.
- **Learning for the future** may be regarded as *extended accountability*. From evaluation one can learn what is effective and what not, and how to make interventions more effective.
- **Scientific evaluation** or theory-building is necessary to develop the fairly young discipline of health promotion further. Through scientific evaluation the descriptive, predictive and explicative adequacy of theories and models can be tested and refined (*cf.* Meertens *et al.*, 2001; Schaalma *et al.*, 2001: 89).

- **Ethical considerations** can drive evaluation. Health promotion interventions are often intended to influence people's behaviour. Evaluation research may indicate whether interventions have undesirable ethical consequences.

In our opinion two important reasons for the evaluation of the DOH's small media materials are *accountability* and *learning for the future*. The focus on accountability is merited by the South African Government's relatively high expenditure on public awareness leaflets. The emphasis on learning for the future is evident: The HIV infection rate in the country is still on the increase. Awareness programmes and intervention materials might still be considered ineffective, besides the other possible reasons which exist for the increase. Research on usability can make a contribution towards increasing the effectiveness of awareness programmes and materials, provided that specific user-problems are identified and addressed in an appropriate way.

4. The research design

4.1 Materials

The leaflet selected for the research was the one on *HIV/AIDS Counselling*. The particular version tested included text in four languages, namely English, Afrikaans, IsiZulu and Sesotho. The format is that of a double-sided, three-fold brochure (eight columns in total), comprising text and illustrations (coloured line drawings). Coloured backgrounds (pale blue, green and ochre) separate the languages and facilitate rapid access. Bright pink dividing lines separate five headless content sections. The textual content of the five sections may be summarized as follows:

- a general introduction on AIDS;
- a brief description of the emotional and decision-making problems of an AIDS patient;
- a brief description of the role counsellors may play in alleviating the emotional burden of such patients, and their facilitating role in decision-making processes;
- a plea to all readers who intend taking an HIV test, to seek counselling before and after the test;
- a list of the organisations that offer counselling services; and
- a summary of the ethical code to which a counsellor should adhere.

(The Afrikaans and English texts are included as Addendum A).

Each column carries one illustration: The cover fold bears a picture of two seated ladies conversing in a neatly furnished room. The second fold depicts three people, two of whom have a perplexed look on their faces, and face a third woman. On the third fold a sign reading *COUNSELLING CENTRE*, with an arrow pointing to the

right, is depicted on a red brick wall. On the fourth fold the user sees a woman approaching a building from which two other people are emerging. The fifth fold shows two people sitting in chairs and facing each other. The woman holds a file while she is talking to the man in the other chair. This is followed by a picture of the counsellor standing at the door of the consulting room displaying a sign, *PRIVATE* on the door (sixth fold), seemingly inviting a client in. Since the text on the conduct of a counsellor is continued on the next page no additional pictures occur on the seventh fold. The eighth and last fold shows two people, a man and a woman, talking over the telephone.

In addition to the reasons we gave for the preliminary observations on the comprehensibility of the brochure on *HIV/AIDS Counselling*, there were other arguments for selecting the particular brochure. They were:

(a) The topic of counselling is relevant for all individuals who do not know their HIV status.
(b) The AAO's interviewees singled out the leaflet on *HIV/AIDS Counselling* as one of the most useful leaflets (*cf*. Hurt, 2000: 18).
(c) The topic of counselling is less sensitive to deal with than e.g. *condoms* or *STDs*.
(d) Lay people would probably not know all the facts about the counselling procedure, and would probably not be able to answer questions on the content of the leaflet on the basis of general knowledge.

4.2 Research hypothesis and research goals

Based on the focus-group study from which this research originated we formulated a hypothesis that the DOH's leaflet on *HIV/AIDS Counselling* was not sufficiently comprehensible for regular visitors to state health facilities.

Our hypothesis about the comprehensibility of the document is supported by statistics about literacy and reading proficiency in South Africa:

- According to *Census '96* figures released by *Statistics South Africa*, there are 23 699 930 adults between the ages of 16 and 65 in South Africa. Of these, 3 283 290 have not accessed any schooling and 9 439 244 have not completed Grade 9. Thus, 12 722 534 (54%) of the total adult population has not completed a general level of education (e-mail communication with Project Literacy).
- Statistics on the number of functionally illiterate adults vary quite significantly. Aitchison (1999) supplies a figure of 7,4 million (18,5% of the adult population), whereas the SA Institute of Race Relations (2000: 107-133) gives a figure of 46%.

Against the background of statistics on the reading proficiency at school level, an adult illiteracy figure close to 50% does not seem to be too far-fetched. A large-scale survey conducted in 1996 (1 898 former DET learners in 20 rural schools in

the Western Cape, the Eastern Cape, KwaZulu/Natal, the Free State, the Northern Cape and Gauteng) undertaken for READ indicated that:

- only 33,6% of the grade 5 learners were found to possess "average" reading skills, with 38,5% of the grade 6 learners and 45,5% of the grade 7 learners; and
- only 7,5% of the grade 5 learners were found to possess "average" writing skills, with 12,6% of the grade 6 learners, and 19,3% of the grade 7 learners (Le Roux & Schollar, 1996: 12-13).

Although not empirically uncontested, these statistics nevertheless suggest a disturbing picture of the reading proficiency of the average visitor to state health facilities.

Further support for the hypothesis about the difficulty level of the text was found in the readability score of the leaflet. According to a computerized version of the Flesch Reading Ease test, the readability of the English text was found to be just below 60 (60 is the level of Plain English). This level corresponds to a Flesch-Kincaid Grade Level of 9,2. (Microsoft Word 2000).

Although the languages other than English represented in the leaflets could not be subjected to measurement (no readability indexes exist as yet for mother tongue languages other than English), it was assumed that their level of readability would be similar to or more difficult than the English text. This assumption is based on the fact that other language versions are usually translations of an original English or Afrikaans text (Parker, Dalrymple & Durden, 1998: 36). Moreover, the majority of South African languages emerges from an oral rather than a written tradition, and as a result tends to be fairly cumbersome to read (Parker, Dalrymple & Durden, 1998: 36).

Our main research goal was to establish, through individual interviews with authentic users, whether the leaflet on *HIV/AIDS Counselling* posed significant comprehension problems for the average patient visiting state health facilities, and whether this brochure – as a stand-alone, and not merely a reinforcement tool - was reaching its intended communicative goal. At that stage we did not intend to find answers to the causes of comprehension problems, as that would require additional and more sophisticated research methods, e.g. designing alternative versions of the text and requiring a motivated choice (*cf.* De Jong & Schellens, 1997: 424 on the motivated choice technique).

4.3 Evaluation instrument

The evaluation instrument used for the research was structured, open-ended individual interviews. As already stated, our research focused mainly on comprehensibility. However, we decided to verify three additional user-focused dimensions, namely *attention*, *appreciation* and *persuasiveness* because of their overall importance in the process of information-processing, and their close links

with comprehension. Support for focusing on these four dimensions was found in the following sources:

1. McGuire's *Information Processing Paradigm* (1972: 116) distinguishes attention, comprehension and yielding (= persuasiveness) as the three most important phases of the process of persuasion.
2. Wogalter, Dejoy & Laughery's *C-HIP* model on instructional communication (1999: 17) lists attention, comprehension, attitudes and beliefs, motivation and behaviour as the stages of their model for information-processing.
3. Doak *et al*. (1996: 169) regard attraction, comprehension, self-efficacy, (cultural) acceptability and persuasion as the main elements of medical information aimed at low-literate patients.

The above-mentioned four response steps were considered to be included in the questions we devised. The order of the questions has been changed slightly to fit under the rubrics we present below:

Questions on attention:

- Did you feel like reading this leaflet? If yes, what in this leaflet makes you want to read it?
- If you saw this leaflet on a rack in a guidance counsellor's office, would you pick it up and take it home? Why/why not?

Questions on appreciation and interest

- Do you like the way this leaflet looks? Why?
- What do you think of the pictures?

Questions on comprehension and memory:

- What is the main idea expressed in the leaflet?
- What are the most important points of the leaflet?

Questions on persuasiveness:

- Does the leaflet change your mind about anything? If yes, about what?
- The second question under the heading "Attention", namely "Would you take this leaflet home and show it to your friends?", may also have measured persuasiveness to a certain extent since a decision to take the document home and show it to family and friends could indicate an acceptance of the message and a conviction that it may be helpful to others.

4.4 Participants

Twenty-seven visitors of health clinics in previously disadvantaged areas in the Gauteng and Limpopo provinces were approached. All the respondents came from

lower income groups, with literacy levels ranging between Grade 5 and Grade 10, and ages between 27 and 45. Eighteen respondents were female and 8 male.

The field-work was conducted by students registered for the Masters course in Development Communication at the University of Pretoria during 2001 and 2002. The second author was the course leader and authorized the research.

4.5 Application of the instrument

The subjects were recruited while awaiting consultation at various clinics. Each respondent was provided with a copy of the leaflet, and sufficient time was allocated to read through the document. The leaflet was then closed, upon which a structured interview was conducted (a retrospective method of usability research). All interviews were conducted in the mother tongue (Sepedi or IsiZulu). Responses were recorded on interview schedules in real time, and subsequently translated into English (for comprehension purposes).

5. Results

5.1 Attention

Attention entails selecting parts from all available sensory information for further mental processing (Pettersson, 2001: 115). It is the control mechanism which determines which stimuli will be noticed and which will be ignored.

According to Crompton (1997: 57) the average person sees roughly between 1 000 and 1 500 different promotional (= persuasive) messages per day. Rural South Africans may be confronted with fewer messages; yet the question remains which of them will catch and hold attention, and as Doak *et al.* (1996: 168) express it, “If the patient doesn’t look at it, there’s no chance for influence”.

An important question to ask is why people will pick up a particular printed message, and ignore others. Doak *et al*. (1996: 168) concretize the attention-getting characteristics of a printed document by formulating a number of explicit questions:

- Is the instruction appealing enough to carry the patient into the message itself?
- Are the visuals of interest?
- Do the colours fit the tone and mood of the subject?

Researchers dealing with persuasive texts in particular, mention the following as reasons for people giving attention:

- *News value* (Berlyne, 1974): A text will be noticed if it contains news. The content of a text is only informative if the content is not already known to the reader.

- *Absolute interest* (Schank, 1979): The *interestingness* of most topics will differ from reader to reader, while (a limited number of) others are claimed to be interesting to everyone, namely sex/romance, babies and small animals, money/wealth/power. In the present context HIV and AIDS may have become one of the topics of absolute interest.
- *Individual interest* (Hidi, 1990): Readers prefer to receive information on some topics rather than on others.
- *Personal relatedness* (also known as *consequence-involvement*): A person will be naturally inclined to attend to information which has immediate personal consequences.
- *Surprisingness* (Berlyne, 1974): Information is surprising if it contradicts the expected, or tells us about the infrequent. Frijda (1993) states that the occurrence of a mismatch between stimulus input, i.e. information, and knowledge or expectations gives rise to curiosity. In the field of health communication the use of fear appeals may arouse interest because of their *surprisingness*.

The responses in our survey indicated that the leaflet in question passed the attention test. All respondents answered that they "felt like reading the leaflet". To the question of whether they would pick up the leaflet in a guidance counsellor's office and take it home all respondents except three answered, "Yes".

The most important reasons given for attending to the leaflet, and intending to take it home, were the following:

What about this leaflet makes you want to read it?

- The topic of AIDS (12) (three mentioned the red ribbon logo as trigger).
- The heading: *HIV/AIDS Counselling* (3).
- The desire to know how to treat other people with AIDS (5).
- The use of colour (5).

Why would you pick it up and take it home?

- To know more about AIDS (7).
- To share information on counselling with others (8).

The answers seem to suggest that comprehension does not suffer because of a lack of (initial) attention. Visual-perceptual stimuli (headings, logo, colour) and a need for information (the topic) were the main reasons for attending to the message. Consequence-involvement (awareness of the fact that the speaker will increasingly have to deal with people living with HIV/AIDS at a personal level) may be hidden in responses such as desire "to know how to treat people with AIDS" and "to share information on counselling with others". The fact that no specific references to

family members or friends were made, is probably related to a fear of stigmatization.

5.2 Appreciation and interest

Attention and appreciation may be linked, since whether or not a reader will become interested in a document and start browsing or reading, may depend on whether the overall impression is favourable (compare Doak *et al.,* 1996: 168). Even if a reader does not have the ability or the motivation to read the entire message he/she may still be persuaded to follow the suggestions on the basis of the look and feel. (*cf.* Petty & Cacioppo, 1986 on the central and the peripheral routes to persuasion).

In the case of the leaflet under scrutiny, the graphics (coloured line-drawings) and the colour-coded backgrounds for the different languages seemed to have influenced respondents' appreciation significantly. Only three respondents indicated that they did not like the overall appearance, and these individuals seemed to base their evaluation on cultural messages encoded in particular illustrations:

- The pictures look black/only blacks are shown/too many black people.
- They don't show the youth.
- Pictures are too Western.

Those respondents who did express appreciation for the leaflet, gave the following motivations:

- The pictures explain the text/help me to understand the message/understand what I must do (16 respondents).
- The colours help to find the correct language/the colours make the leaflet user-friendly (3 respondents).
- I like the pictures (5 respondents).

Other responses demonstrating a favourable evaluation of the pictures in the leaflet, despite possible social desirability effects and demand characteristics, were the following:

- The pictures show that the counselling and communication helps.
- The pictures show where you can go for help.
- Pictures show the steps we must follow to get help/when we have problems.
- They can console a person.
- They are a true reflection of real people and houses.
- They indicate that counsellors are prepared to help those who need help.

From these responses it can be deduced that lookability/likeability (facilitated by the use of colour, and visuals) helped to keep the attention of the reader and did not play a role in influencing comprehension negatively. However, because of the way

in which the question was phrased, no insight was gained in how visual text characteristics can enhance comprehension.

5.3 Comprehension and memory

According to Mody (1991: 185) "[a]n audience that pays careful attention to a glitzy message does not necessarily understand what the message is trying to communicate". In order to construe a mental representation of the text three sub-processes must be carried out by the reader, namely perception, analysis and concept-formation (Hoeken, 1995: 28-29).

- **Perception** refers to the visual processing of text, or the transformation of visual patterns into letters and words. It depends, among other things, on the lay-out characteristics of the text (*cf.* Hartley, 1987).
- **Analysis** comprises the interpretation of individual words as well as compositional meaning (syntactic structure and semantic content). This process is restricted to the sentence level. Research on syntactic processing has shown that certain syntactic structures are more difficult to process than others.
- **Conceptualization** entails production of a mental representation of the text. This representation contains the literal information, inferences which are evoked by characteristics of the text as well as world knowledge.

Comprehension constitutes a critical component of health communication, and in particular for patients with low literacy skills. Doak *et al*. (1996: 168-169) suggest that comprehension can be measured by asking patients to tell the researcher in their own words what the message means. This is exactly what we did when asking what the main message entailed, and what the most important points of the leaflet were.

The question, "What is the main idea expressed in the leaflet?" elicited the following responses:

- Fifteen respondents answered that counselling was guidance for those who have tested HIV positive.
- Ten responded that the leaflet was about the phenomenon of AIDS in general.
- One identified "condom use", and another "abstinence from sex" as the main topic.

The responses to our instruction, "Name the main points of the brochure" did not yield any better results. None of the respondents named more than one main point, and two subjects could not name any main points. Those who did respond, demonstrated a severe inability to convert the textual information into the mental representation required, as demonstrated by the answers to the request to list the main points the leaflet makes. Respondents gave such inadequate responses as those which follow:

- to go for counselling (10);

- to go for an HIV test (3);
- to go for testing/to know how to be tested (2);
- to understand/inform people about HIV/AIDS (2);
- to explain how to protect yourself against AIDS (3);
- to have only one partner (2);
- to help AIDS victims (1).

It is interesting to note that none of the respondents mentioned any of the following points addressed in the leaflet, namely:

- the emotions of a person who is HIV positive (fear, anxiety, depression, etc.);
- the interpersonal problems a person who is HIV positive may experience within his/her family (fear, stigmatization);
- the ethical code of conduct a counsellor has to adhere to.

The poor performance of the respondents on the content questions may be due to the procedure followed by the interviewers, namely, requesting the respondents to read through the brochure and then asking questions on memory.

However, whether it was a lack of comprehension, or poor memory, or both, the brochure proved to be largely ineffective. Since no verifying questions were asked by the interviewers, we could only hypothesize about the factors that might have caused the ineffectiveness. These are:

- The level of difficulty of the text;
- The lack of external structure (Although the multilingual, colour-coded approach is attractive and may facilitate persuasiveness, it focuses the attention on searching, rather than getting an overview of the text. Queuing and filtering devices such as subheadings (*cf.* Martin, 1989) may have helped to facilitate comprehension and memory.);
- The inclusion of too much information for a low-literate audience (*cf.* Doak *et al.*, 1996: 168).

5.4 Persuasiveness

Persuasiveness requires some measure of comprehension, as can be deduced from the following verifying questions on persuasiveness suggested by Doak *et al.* (1996: 169): “Is the message able to convince people that they should take action?”; “Would other people in the community be likely to follow this advice?”

The responses we received clearly indicate that the persuasive message was largely lost because of a lack of adequate comprehension. Although 25 respondents answered in the affirmative, only two gave responses indicating that the main persuasive message had been (partially) effective. These said:

- It changes my mind in regard to counselling; telling someone about HIV/AIDS which is usually treated as a secret.
- It makes me take a decision to go for HIV/AIDS tests.

The following responses indicate that the term *persuasion* was understood incorrectly, meaning "to learn new facts". These responses were:

- There is enough information and advice.
- Understanding of HIV/AIDS
- The contents enlighten the reader.
- There is information about HIV/AIDS that is new to me and I need to know and understand the facts.
- I learnt a lot about HIV/AIDS Counselling.
- There's always a perception that your life will be taken over by counsellors and that you'll be dictated on how to live your life irrespective of how you feel.

Seven respondents read a persuasive message which was not overtly intended by the leaflet. Their responses were as follows:

- It encourages me to live a clean/moral life.
- Yes, it means we should be careful when practising sex.
- It makes me to know that it is important to use condoms.
- To avoid unsafe sexual practice.
- It makes me to have one lover.
- We must watch our steps, and do things carefully.
- It makes me to change the way I was practising sex.

These answers hint at a "safer sex in future" strategy, which may be linked to a decision not to go for a test, because of the possible stigmatization as a result of this act.

6. Interpretation of the results

The research on which this contribution reports should not be seen as conclusive. Firstly, the students had limited experience in conducting usability interviews. Both the construction of the interview, and the actual interviews may therefore have been sources of inherent error. The following sources could have influenced the reliability of the data (*cf.* Mouton, 2000: 103-107):

- *Leading questions*: Respondents could have been led to give a certain response through the wording of the question, or through subtle prompts. This effect was observed in answers containing academic words which would normally not occur in the speech of low-literates, e.g. "headers", "bias", "too Western". The use of these English words could also have been the result of interviewers' "upgrading" of the actual interview discourse.
- *Mono-operational bias*: Asking YES/NO questions could have led to misleading answers. This could, for instance, have been the case with the question on the potential appreciation of the leaflet ("Do you like the way this leaflet looks?").

- *Social desirability effects and demand characteristics*: The subjects may have reported attitudes or changes because they felt they were expected to respond in a certain way; that a specific answer was the "correct" answer or would satisfy the interviewer. This effect could easily occur as a result of the difference in status between interviewers and interviewees. The interviewers were all students enrolled for a Masters degree in Development Communication, whereas the respondents were unskilled or semi-skilled persons from lower income groups.

Yet despite the above-mentioned limitations our research did yield insight into the reliability of the AAO's evaluation of the DOH's leaflets on HIV/AIDS. On the basis of the responses we could support the AAO's assessment that the leaflet on *HIV/AIDS Counselling* was successful in:

- catering for different language groups;
- promoting awareness and helping people face realities of HIV/AIDS;
- helping people to know what to do (where to seek help); and
- providing basic information.

However, the AAO's claims that the leaflets were written in an easily understandable way; explained things well; and helped as stand-alone information resources, could not be substantiated.

A possible conclusion which could be drawn from the discrepancies between the reports by the AAO's clients and the responses from authentic end-users during structured interviews is that intermediaries (health workers and other target group experts) are often positively biased towards the success of interventions. Their responses could also be ascribed to desirability effects (what the AAO's clients thought that government and the AAO wished to hear), which could in turn be linked to employment security (not willing to do anything that might jeopardize their positions at the facility where they are employed).

From our point of view this study facilitated "learn(ing) for the future" in the sense that comprehensibility and memorability were identified as real user-problems. Although the overall appearance of the leaflet under scrutiny was positively evaluated by the respondents, and seemed to contribute towards getting and keeping attention, and of being persuasive, the text did not seem to be easily comprehended. Appreciation for visuals and other layout characteristics is not enough to substantiate their effectiveness in health communication documents. Illustrations (and captions) should ideally introduce a sufficient measure of redundancy to assist low-literates in understanding and getting an overview of the content, without reference to the body text. However, it is doubtful whether illustrations would be powerful enough to carry the main message in a brochure dealing with an abstract process such as counselling.

7. The way forward

Readability, according to our understanding, is not merely a function of average **word length** (number of syllables in the text divided by the number of words) and average **sentence length** (number of words in the text divided by the number of sentences) (*cf.* Schriver, 1997: 28-29; Flesch, 2002), which forms the basis of the calculations in most readability indexes. Readability also includes:

- **"lookability"**, entailing the successful decoding of visual information such as photographs, graphics, symbols and typography;
- **utilizing devices for chunking, queuing and filtering** such as headings, bullets, numbering, summaries, a statement of purpose, etc. in order to decrease cognitive load and motivate the reader (*cf.* Schriver, 1997: 29; Parker, Dalrymple & Durden, 1998: 16; Martin, 1989; Marcus, Cooper & Sweller, 1996); and
- using **prior knowledge** to make correct inferences[1] (Mody, 1991: 187; Marcus, Cooper & Sweller, 1996).

We decided to show that we have learnt for the future – from this restricted research project as well as from relevant literature on the topic (e.g. the SAM evaluation expounded by Doak *et al.*, 1996: 51-59) – by compiling a matrix for evaluating the comprehensibility of persuasive communications aimed at low-literate South African patients.

Tabel 1: Comprehension review matrix

FACTOR TO BE RATED	SCORE 2 superior 1 adequate 0 not suitable N/A not applicable				COMMENTS
	2	1	0	N/A	
CONTENT (a) The main purpose is evident. (b) The content focuses on the patient's behaviour. (c) The scope is limited. (d) The content answers readers' most important questions. (e) A summary or review is included.					
STYLE/LITERACY DEMAND (a) Reading grade level is adequate (5th grade or lower). (b) Active voice is used. (c) Common words are used / technical terms are explained when used. (d) Short, well connected sentences are used.					
GRAPHICS AND COLOUR (a) Cover graphics show purpose clearly. (b) Illustrations are relevant and explanatory. (c) Captions are used for graphics. (d) Graphics are close/next to relevant text. (e) The use of colour is functional (not distracting or confusing).					
TOTAL SCORE	____ 34				

Calculation of score

Calculate the total, using the following formula:

$$\frac{\text{Total}}{34} \times \frac{100}{1}$$

Subtract 2 from the total for each N/A marked (e.g. 34 – 2 = 32).

Although the use of a design/an evaluation matrix cannot replace authentic reader research, it has the advantages of being theory-based as well as (reader) research-based, and must therefore have some validity. A matrix such as this may for instance be used as an expert review (applied to subject-field specialists, target group experts and document designers) to provide message designers and gatekeepers with a tool for quantitative as well as qualitative evaluation when time and money constraints do not leave scope for reader research.

University of Pretoria

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Notes

[1] According to Mody (1991: 187) "[a]udiences exposed to communications make inferences regarding the topic which they then believe to be true and to have been explicitly stated (when it was not)".

ADDENDUM A: ENGLISH AND AFRIKAANS TEXT OF THE DOH'S LEAFLET ON HIV/AIDS COUNSELLING

AIDS a disease that affects millions of South Africans. It is caused by a virus called HIV that slowly weakens a person's ability to fight off other diseases.

People who are HIV positive have many feelings including negative feelings such as fear, helplessness and anger.

VIGS is 'n siekte wat miljoene Suid-Afrikaners raak. Dit word veroorsaak deur 'n virus wat HIV genoemword. HIV takel geleidelik 'n persoon se weerstand teen ander siektes af.

Mense wat HIV-positief is het baie emosies, waaronder negatiewe emosies soos vrees, hulpeloosheid en woede

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People who are HIV positive may find it difficult to talk to their friends and family about their feelings. They also have many decisions to make about their life.

Friends and family members may not know how to talk to those who are close to them who are HIV positive.

Mense wat HIV-positief is vind dit soms moeilik om oor hul gevoelens met vriende en familie te praat. Hulle moet ook baie besluite oor hul lewens neem.
Vriende en familielede weet dalk nie mooi hoe om met mense na aan hulle wat HIV het te praat nie.

It is important that people who feel this way have a chance to talk about these feelings with an experienced counsellor.

Counsellors are trained to listen and can provide accurate information to assist people with decision making.

Dit is belangrik dat mense wat só voel die geleentheid kry om met 'n ervare berader oor hul gevoelens te praat.

Beraders is mense wat opgelei is om te luister en kan waardevolle inligting verskaf om mense met besluite te help.

Anyone having an HIV/AIDs test should speak to a counsellor before the test, and should be able to discuss their test results with a counsellor.

Counsellors can also offer ongoing support, information and advice to HIV positive people, their partners, friends and family.

Enigeen wat 'n HIV/VIGS-toets kry, moet voor die tyd met 'n berader praat, asook die uitslae daarna met 'n berader bespreek.

Beraders kan ook volgehoue steun, inligting en advies verskaf aan mense wat HIV-positief is, hul lewensmaats, vriende en familie.

There are many organisations that offer counselling face-to-face or over the telephone. Counselling is available from:

- AIDS Training, Information and Counselling Centres (ATICCs) in most big towns
- The free 24-hour AIDS HELPline at 0800-012-322
- Social workers and some community organisations

Daar is baie organisasies wat berading van aangesig tot aangesig or oor die telefoon verskaf. Berading is beskikbaar by:

- *VIGS opleiding-, inliging- en beradingsentrums (ATICCs) in die meeste groot dorpe*
- *Die gratis, 24-uur VIGS-hulplyn by 0800-012-322*
- *Welsynswerkers en sommige gemeenskapsorganisasies*

A counsellor:

- must treat what you tell them confidentially
- should provide a private place for you to talk
- should not judge you or your situation
- should be understanding and allow you to express your feelings
- should advise you of your options but not make decisions for you
- should give you information that will help you make informed decisions
- should be supportive

'n Berader moet:

- *dit wat jy hulle vertel vertroulik hanteer*
- *in privaatheid met jou praat*
- *jou of jou omstandighede nie veroordeel nie*
- *begrip toon en jou toelaat om uitdrukking aan jou gevoelens te gee*
- *opsies aan jou voorhou, maar nie namens jou besluite neem nie*
- *jou inligting gee wat jou sal help om besluite te neem*
- *jou ondersteun*