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User-based parameters for the training of subtitlers in South Africa

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Abstract: This article attempts to define a set of parameters for the training of subtitlers in South Africa to meet the diverse needs of the different potential user groups. In order to arrive at a description of these parameters, we first define the different groups in terms of their distinct needs. The main user groups that are identified in the article are users with hearing impairment (including users with pre-lingual deafness, users with post-lingual deafness and hard-of-hearing viewers), illiterate users, and literate non-L1 users. The needs description of these groups is then used to formulate user-based parameters for the training of subtitlers in South Africa. These parameters centre on reading speed, vocabulary, access to non-linguistic audio elements and knowledge of the source language. The article further shows that, although there are overlaps in terms of the needs of different user groups, the groups are sufficiently unique to make any combination of groups for the purpose of subtitles highly problematic. Nevertheless, the common ground that does exist should be exploited to ensure that subtitling in South Africa will be done optimally to ensure maximum benefit to target groups in the way that specific language-related problems are addressed.

1. Introduction

1.1 Problem statement

Ivarsson and Carroll (1998) state that subtitling must be well executed if it is to be accepted by viewers. They continue to say that 'many people, including both broadcasters and self-taught subtitlers, do not seem to have much of an idea of what it takes to produce good subtitles. In particular, the training of subtitlers lags far behind demand for this particular language transfer service' (Ivarsson & Carroll, 1998: 2).

A quick overview of subtitling across the three television channels of the South African Broadcasting Corporation (SABC) reveals that there is very little consistency in the way that subtitling is done. The inconsistency is particularly visible in the variety and size of fonts used, number of characters, positioning and display of subtitles, reading speed and the proportion of the programme that is subtitled. There seems to be no central core of parameters for subtitling, often resulting in subtitles that are neither here nor there, and with none of the potential viewer groups adequately served by what is presented. As Ivarsson and Carroll point out in the above passage, an uneven quality of subtitling is directly linked to insufficient or non-existent training of subtitlers. This is of particular concern to the South African situation where subtitler training is still in its infancy.

In a report on subtitling in South Africa, Kruger and Kruger (2001: 5) state that subtitling is underused, although it has the potential to address language-related problems such as inaccessibility of information and illiteracy, and that it could be used in the implementation of language rights and the promotion of multilingualism. One of the main reasons for the underuse of subtitling is the lack of adequate training for subtitlers and the resulting shortage of qualified practitioners (Kruger & Kruger, 2001: 5).

The fact that subtitling has not yet been introduced on a large scale in South Africa, however, allows us to learn from the experience of other countries and to avoid making the same mistakes. In the US, for instance,

[i]n those early days of captioning, the people involved were too busy trying to provide a service to do much research on captioning techniques. In general, whenever cap-

tioners faced a caption-editing problem, they would just talk about it among themselves, reach an agreement, and their decision would become captioning policy. For their part, deaf and hard-of-hearing people were so delighted to have captioned television that they would literally accept anything thrown on the screen. For years after captioned television became available, deaf and hard-of-hearing people were very reluctant to criticize the service. In the last decade, as captioning has become more wide-spread, this situation has begun to change. Both caption providers and caption viewers are taking a more careful look at captioning techniques (Jensema & Burch, 1999: 6).[1]

The implication of this for the South African situation is that we need to take a careful look at the needs of potential subtitle user groups before any training programmes can be developed.

1.2 Different needs of different subtitle user groups

The answer to the question of who the potential subtitle user groups are lies in the applications of this form of language transfer in addressing specific problems or needs.

The first language-related problem that can be addressed through subtitling is inaccessibility of information. One of the main benefits of subtitling is that it allows access to information (transmitted via the audio channel) to viewers who would otherwise have been excluded. This information typically includes spoken language (for example, dialogue, monologue and commentary), music and other sound effects (for example, gunshots, thunder and car crashes), also known as the soundtrack.

This audio information may be inaccessible to viewers in varying degrees and for a variety of reasons. Physical disabilities such as hearing-loss or deafness may limit, or altogether prevent, access to audio information broadcast on television. Viewers with these disabilities rely on sight, or people who can interpret the audio content for them, to understand the broadcast.

Another factor that may restrict access to the audio channel in television broadcasts is the use of a language other than the first language (L1) of the viewer. In South Africa, with

its 11 official languages, none of which is spoken by all South Africans, this situation would occur during any broadcast. No matter what language the broadcast is in, it will always be inaccessible to viewers who do not speak that particular official language. At present, the SABC mainly makes provision for those viewers who can understand English, subtitling only into English in some programmes that contain dialogue in one of the 10 official languages other than English. In other words, the premise is that everyone can understand English and that any language other than English has to be rendered into English in order to make it accessible to all. The error of assumption here becomes clear when one considers that only 22% of all (non-English mother-tongue) respondents in South Africa can get a full grasp of the content of any speech or statement delivered in English (PANSALB, 2001). Based on the 2001 Census, this means that roughly 32 million people are excluded to some degree when only English is used.

In most of the above cases limited access to the audio could be improved and, in some cases, eradicated through the use of subtitles. Research has shown that subtitles are an effective way of making audio information accessible to those with hearing disabilities (cf. DTN 1999), while at the same time improving comprehension (cf. Lewis & Jackson, 2001; Bird & Williams, 2002). Nugent (1983) came to the conclusion that subtitles are successful in raising the levels of comprehension in both hearing and hearing-impaired students. Furthermore, interlingual subtitles are used to make non-L1 audio information available to viewers.

The second language-related problem in South Africa that can be addressed through subtitling is illiteracy. The adult illiteracy rate in the country is 18 million out of a total of 45 million (Williams, 2002). Approximately one in every two adults is functionally illiterate, i.e. lacks 'the literacy necessary for coping with most jobs and daily situations' (Concise Oxford Dictionary, 1998). Illiteracy not only affects individuals, but the nation as a whole and illiterate nations are less healthy, productive and wealthy than nations with a higher literacy rate (PBS, 2002). Without intervention to improve literacy skills, the illiterate are likely to remain economically disempowered and locked in a cycle of poverty.

Subtitling is a form of intervention that has been tested extensively in the teaching of reading in the Unites States and research indicates that it could be used with great success for the teaching of reading to both hearing and non-hearing adults and children (cf. Peters, 1979; Koskinen, Wilson & Jensema, 1985; 1986; Bean, 1989; Milone, 1993; Linebager, 2001). Research in India, a developing country like South Africa, indicates that subtitled television is a successful means of raising levels of literacy among adults in remote areas (Kothari, 1998).

The third language-related problem that can be addressed through subtitling is the issue of multilingualism. The home language distribution in South Africa (derived from the 2001 official census) bears testimony to the fact that the country truly has a multilingual and multicultural character that has to be taken into account in determining the needs of the different user groups (Table 1).

In a country with more than one official language, language rights are inextricably linked to multilingualism. It is only possible to exercise the right to use a first language in communication with speakers of other languages if the latter are able to and prepared to speak a language other than their first language. Multiligualism can be defined as the dynamic process which empowers the speakers of different languages to convey messages in a language or languages of their own choice, as well as displaying sensitivity for the need of different communities to express themselves in their own vernacular (Anon. 2002: 2, 3).

By being able to speak more than one language, it is possible to communicate with a wider range of people and to have access to a wider range of activities. In the words of the old Afrikaans adage: 'Soveel tale as ek kan, soveel male is ek 'n man' (the more languages I speak, the more times I am a man).

According to the Pan South African Language Board (PANSALB), monolingualism and the denial of language rights have been used in the African context to disempower, especially during the time of colonialisation, and also to exclude people from economic, political and social participation (PANSALB, 1998). In South Africa with its 11 official languages, multilingualism is seen as a way to accommodate the language rights of the speakers of all official languages. PANSALB strives for the promotion of multilingualism in order to enable South Africans to free themselves from all forms of linguistic discrimination, domination and division, and to enable them to exercise appropriate linguistic choices for their own wellbeing, as well as for national development (PANSALB, 1998).

Over a period of 20 years, research in the United States has shown that subtitling is an effective means to facilitate second language acquisition in both hearing and hearing-impaired subjects (cf. Holobow, Lambert & Sayegh, 1984; Hanson & Padden, 1989; Smith, 1990; Spanos & Smith, 1990; Neuman & Koskinen, 1992; 1993; Borras & Lafayette, 1994). Some of the benefits of subtitling for second language acquisition are that it improves comprehension and oral perfor-

Table 1: Language distribution in South Africa according to the 2001 Census (Statistics South Africa, 2003: 15)

Language	Number of speakers	Percentage
IsiZulu	10 677 305	23.8%
IsiXhosa	7 907 153	17.6%
Afrikaans	5 983 426	13.3%
Sepedi/Northern Sotho	4 208 980	9.4%
Setswana	3 677 016	8.2%
English	3 673 203	8.2%
Sesotho	3 555 186	7.9%
Xitsonga	1 992 207	4.4%
SiSwati	1 194 430	2.7%
Tshivenda	1 021 757	2.3%
IsiNdebele	711 821	1.6%
Other	217 293	0.5%
TOTAL	44 819 778	100.0%

mance, facilitates incidental learning of new words, and is a great motivator.

Applications of subtitling, namely access to information, improvement of literacy and the promotion of multilingualism, may be associated with all forms of subtitling, but more often than not, it is associated with a specific form of subtitling (interlingual or intralingual), as the next section will point out.

1.3 Intralingual and interlingual subtitling

Subtitling can be either intralingual or interlingual. Intralingual subtitling involves creating subtitles in the same language as the soundtrack, for example, when English dialogue in the Afrikaans soap opera, *7de Laan*, is subtitled in English. Intralingual subtitling is also sometimes referred to as Same Language Subtitling (SLS). The purpose of intralingual subtitling is normally to make audio information accessible to persons with a hearing impairment, or to provide reading practice, or to improve comprehension by speakers who have a limited proficiency in the source language.

Interlingual subtitling involves the translation of audio information from one language to another, for example, English subtitles for Afrikaans dialogue in *7de Laan*. The primary aim of interlingual subtitling is to provide access to information in a language that is not accessible to the viewer. As part of this, interlingual subtitling is used in second and foreign language teaching to improve comprehension and learning. Although it is not the primary aim of interlingual subtitles, they also make information available to those with hearing impairments. There is a need for both intralingual and interlingual subtitles in South Africa. The type of subtitling to be used will be dictated by the needs of the subtitle user group in a given situation.

1.4 Aim and objectives

The aim of this article is to define a central core of parameters for the training of subtitlers in South Africa to meet the requirements of the diverse user groups. In order to ensure that we get off on the right foot with subtitler training, our first objective is to describe the needs of potential subtitle user groups. The experience of other subtitling countries will be most useful in this regard, as their research and viewer

feedback provide us with a greater understanding of the needs of our own potential viewer groups. The needs description will be used to formulate user-based parameters for the training of subtitlers in South Africa. The ultimate goal of this exercise is to ensure that subtitling is done optimally to ensure maximum benefit to target groups in the way that specific language-related problems are addressed.

2. Needs of potential subtitle user groups in South Africa
2.1 Users with hearing impairment

The first potential group of subtitle users are people who are deaf or hard-of-hearing, as they are unable to access the soundtrack on television. In spite of the fact that no systematic subtitling was used at the time of the survey on subtitling in South Africa conducted by Kruger, Verhoef and Kotze (2000), more than 40% of deaf respondents indicated that they watch more than five hours of television per week (24% watched more than 10 hours per week), and all respondents indicated that they have access to television in their own homes. This constitutes a significant use of public service television.

There are two main types of deafness, namely pre-lingual deafness (those who have been born deaf and never acquired language in a natural way), and post-lingual deafness (those who have become deaf after acquiring language). The latter group includes those with acquired hearing loss due to illness, accident or old age and is significantly bigger than the first group. In Kruger *et al.* (2000: 64), a random selection of participants from deaf and hard-of-hearing people resulted in a sample with between three and four times more people with post-lingual than pre-lingual deafness. This is thought to be consistent with the actual figures. Although both groups will benefit from subtitles, their requirements will be different because the first group is in the process of acquiring a basic proficiency in language that they cannot hear, while the second group has already acquired a certain level of language proficiency.

According to De Linde and Kay (1999: 11), people with pre-lingual deafness

  are at a disadvantage on two accounts; not only are their reading levels lower than average but their breadth of knowledge is also restricted by a limited access to information throughout their education […].

In contrast, there is no evidence to suggest that the reading ability of people who have acquired hearing loss is adversely affected. This means that there is an unusually large range of reading abilities among deaf and hard-of-hearing viewers […]

The primary need shared by all viewers in this group is access to information conveyed via the audio channel. In the case of television, this includes dialogue and other linguistic information such as narration or commentary, as well as sound effects and music. Although lip-reading is possible for dialogue when the speaker is facing the camera, speakers that face away from the camera, off-screen narrators and sound effects cannot be 'read' in this way. This inaccessibility of information presented via the audio channel may at best lead to an incomplete understanding or misunderstanding of the programme (Lewis & Jackson, 2001: 45), or to a total inability to understand the programme. By providing a written representation of linguistic (and non-linguistic) elements of the audio channel, subtitles make this information accessible to those viewers who are deaf or hard-of-hearing.[2]

The way in which subtitling is done should take into account the particular needs of people with pre-lingual and post-lingual deafness. According to Lewis and Jackson (2001: 45)

[i]t is assumed that if an individual is not consistently exposed to language in a variety of contexts (for example, interpersonal communication, storytelling, reading, writing), he or she will not fully develop the skills with language that result in competence. Language abilities increase with use and through interactions with those who have more sophisticated language skills; unfortunately, for many deaf children, the variety of such learning interactions is often not readily available.

Therefore, subtitling for viewers with post-lingual deafness will normally be aimed at a viewer target group with more sophisticated language skills than subtitling for a viewer group that is predominantly pre-lingually deaf.

2.1.1 Users with pre-lingual deafness
As a result of the lack of or limited exposure to natural language, viewers with pre-lingual deafness are likely to have a more limited vocabulary compared to viewers with post-lingual deafness. Lower reading and natural language pro-

ficiency levels among viewers with pre-lingual deafness suggest that subtitling for this group should be done at a lower rate, and some even recommend the use of simplified language structures (Braverman & Hertzog, 1980). However, the use of overly simplified language structures has since been disputed (Jensema, McCann & Ramsey, 1996: 284–285) as this is considered to be over-editing that complicates the task of the reader by requiring a higher degree of inference, although the reading task itself has been simplified.

In order to address the subtitling needs of viewers with pre-lingual deafness, the following aspects should be taken into consideration:
- the audio content should be presented in a written form at a reading rate that is optimal for this group
- preference should be given to words that are likely to form part of their vocabulary
- subtitles should reflect the presence of non-linguistic elements on the soundtrack, for example, music or other sound effects
- language structures should not be over-edited, as this increases the level of inferential knowledge required from the viewer

2.1.2 Users with post-lingual deafness and hard-of-hearing viewers
Although the needs of viewers with post-lingual deafness and hard-of-hearing viewers are similar to those of viewers with pre-lingual deafness insofar as neither group has full access to information presented via the audio channel, their needs are also quite different since this viewer group has acquired language prior to their hearing loss. These viewers are likely to have a vocabulary and reading speed that is equivalent to that of the general population since they would have acquired language in the same way as most other people. This is the group which, according to Jensema and Burch (1999: 6), wants verbatim subtitling. The reason for this is that they would like to 'see every word hearing people hear on television'. The research of Jensema and Burch indicates that although the average subtitling speed in the US is 141 words per minute (wpm), viewers who are deaf or hard-of-hearing can read up to 220 wpm for short periods of time, without any significant loss of comprehension.

In order to address the subtitling needs of viewers with post-lingual deafness, the follow-

ing aspects should be taken into consideration:
- the audio content should be presented in a written form at a reading rate which is appropriate for the variety of reading proficiencies in this group. To limit frustration in the more literate sector of this group, this may at times call for an inflated reading rate
- subtitles should reflect the presence of important non-linguistic elements on the soundtrack
- language structures need not be edited down
- the use of a simplified vocabulary is not required, as these viewers are already proficient in natural language

2.2 Users without hearing impairment

The needs of hearing user groups differ from those of viewers with pre-lingual deafness as the former do not face the same challenges in acquiring language as the latter. For hearing people, language acquisition is a natural process which consists of language modelled to the child, attempts by the child to use language, possible corrections to these efforts and the endless repetition of the process. The child acquires most of the basic structures and vocabulary of spoken language early on in the first two years of her or his life, while the basics of reading and writing are only taught during the first few years of schooling. This is also the point where our next two potential user groups part company: both groups will learn to speak the language, but the illiterate will never master the basics of reading and writing.

2.2.1 Illiterate users

Being illiterate means that people are excluded from any activity that involves reading or writing. Although many illiterate persons learn to recognise their name, and even to read prices, this does not empower them to recognise the same phonemes in a different context. If reading is defined as to 'look at and comprehend the meaning of (written or printed matter) by interpreting the characters or symbols of which it is composed' (Concise Oxford Dictionary, 1998), it is clear that this 'name-reading' is a phenomenon closer to the recognition and interpreting of a road sign than it is to reading.

In order to be able to read, as opposed to merely recognise a name, the most important need of the illiterate is to learn how the building blocks of spoken language, phonemes, are represented in writing. All languages use a finite number of phonemes or 'distinct units of sound that distinguish one word from another' (Concise Oxford Dictionary, 1998). Since the illiterate person can already speak the language, they are likely to know most of the phonemes used in their particular language. In order to be able to read, they now need to link the phoneme to the way or ways in which it is written. This is not always as straightforward as it may seem, and English is notoriously complex with its alternative ways of writing the same phoneme, for example, /f/ which can be written respectively as 'f' or 'ph', or on the other hand, the same letters representing different phonemes, for example, 'ou' which can be pronounced as /V/ in 'tough' or as in /@U/ 'though'.

Research in developing and developed countries has shown that subtitling can be used effectively to teach reading and to improve literacy. The level of literacy (illiterate, neo-literate, semi-literate, literate) at which the specific subtitled programme is aimed will determine the type of programme material selected, as well as the way in which subtitling is done. The study done by Kothari in India during 1998, where subtitled film songs were used to teach and improve literacy without the assistance of a teacher, is an example of this. By using film songs, the researchers ensured that there was a one-to-one correlation between the words heard and the words in the subtitles. Because film songs are very popular in India, people are already familiar with the words, and this makes a larger degree of prediction possible. According to Burke (1990: 116), we understand the intended meaning of a text by making and testing predictions, and the more successful our prediction, the easier it is to read. Another result of the study in India is that the use of highly popular material was found to serve as a great motivator for people to watch the subtitled material (Kothari, 1998).

The following aspects should be taken into consideration when attempting to address the needs of illiterate viewers with regard to subtitling:
- both the audio and the subtitles should preferably be in the first language of the viewer (intralingual subtitling)
- there should be a high degree of correlation between the audio and the subtitle

- sufficient reading time should be allowed
- a core vocabulary should be used and fostered to facilitate prediction

2.2.2 Literate non-L1 users

Non-L1 viewers are speakers whose first language is a language other than that of the television programme.[3] In South Africa with its 11 official languages, anyone who watches a programme in a language other than their first language is a non-L1 viewer. These non-L1 viewers may have varying degrees of proficiency in the language of the programme, ranging from none whatsoever to high, depending on their exposure to and training in the non-L1 language. These viewers have already acquired at least one natural language, namely L1. On a subconscious (and sometimes on a conscious) level they use rules to speak and write in L1. They are familiar with the idea of language governed by a set of rules, and know that there is a 'right' and a 'wrong' way of phrasing something. However, these speakers need help to understand the audio of non-L1 television programmes.

In order to understand the audio of the television programme, these non-L1 viewers may require a translation of some or all linguistic elements, depending on their level of proficiency in the non-L1 language.

Because of the lack of phonemic correlation between audio and subtitle in interlingual subtitling, this type of subtitling is not suitable for the teaching of literacy. For the sake of this article, the potential user group for interlingual subtitling will be limited to non-L1 viewers who are literate, and therefore able to access the information in the written translation.[4] In order to address the needs of non-L1 viewers with regard to subtitling, the following aspects should receive attention:

- a clear translation is required in a language in which these viewers are proficient and which is compatible with their cultural background. Translation should be sufficiently concise to be read in a short time, while at the same time remaining equivalent to the source text
- the average reading speed and vocabulary in the L1 of these viewers will be higher than that of people who are still in the process of acquiring language or literacy. Subtitling rate should therefore be adjusted according to the perceived user group

3. User-based parameters for subtitling in South Africa

The needs analysis above has identified the most important needs of the various potential subtitle user groups. As a result of the heterogeneous nature of the potential user group, it is necessary to define parameters for subtitling in South Africa to ensure that the widest possible viewer base is served. Where choices are made that will exclude a segment of the potential subtitle viewer base, it should be a conscious and justifiable decision. These parameters should form the basis of subtitler training in South Africa, as this will ultimately determine the success of the subtitles created.

Other countries (for example, the US, Australia, Belgium) deal with the problem by offering two different subtitling services: one for deaf and hard-of-hearing viewers (intralingual subtitling), and one for non-L1 speakers (interlingual subtitling). This undoubtedly has some advantages, although it does not solve problems: by grouping together viewers who are hard-of-hearing, they once again create a group with a very big range of reading proficiency. This 'split' in subtitling services has two significant negative aspects: it is a costly duplication of services, and it stigmatises intralingual subtitling as 'for people who don't hear properly', whereas hearing viewers also stand to benefit from this type of subtitling (reading practice).

The user-based parameters that will be discussed are: user group profiles, reading rate, non-linguistic audio elements, language structures, phonemic correlation between audio and subtitle, translation and vocabulary.

3.1 User group profiles

Prospective subtitlers should be familiar with the demography of the viewer base and the needs of the respective subtitle user groups. These needs will determine the type of programme material selected for subtitling, as well as the type and style of subtitling. It is important for production houses and broadcasters to realise that subtitling is not an add-on that will automatically increase viewer numbers. If done incorrectly, subtitling can detract from the quality of the viewing experience, instead of adding to it. Subtitling can serve any number of purposes, and these purposes will be determined by the needs of the potential viewer groups.

Subtitler training with user needs as one of the key parameters will ensure that subtitles are tailored to the needs of viewers, instead of following a one-size-fits-all approach. The latter approach assumes that it is possible to serve all the needs of subtitle user groups with widely differing needs adequately through a generic set of subtitles. However, the needs description above makes it clear that there are major differences between the groups in terms of reading speed, vocabulary, access to non-linguistic audio elements and knowledge of the source language.

In the case of the Afrikaans soap opera, *7de Laan* (the only programme on SABC that is currently fully subtitled), the SABC did not seem quite certain about who their target group was when the production house first introduced subtitling. Two reasons cited for the introduction of subtitling was to reach non-L1 viewers and viewers who are hearing-impaired. According to the SABC (2000), they aimed to attract both 'English and Afrikaans language speakers (many of whom can speak and understand English), while at the same time not wanting to alienate current viewers' (SABC, 2000). However, the subtitles are not suited to the needs of either group: the fact that the occasional English dialogue is subtitled in English would seem to indicate that these subtitles are not exclusively aimed at non-Afrikaans viewers, and the absence of any reference to non-linguistic audio elements (sound effects) means that it does not serve the needs of hearing-impaired viewers fully either.

One of the most important ways to stay in touch with user needs is viewer feedback. As most viewers will only contact the broadcaster when they are unhappy, subtitler training programmes should equip prospective subtitlers with the research tools required to obtain and interpret regular, reliable viewer feedback. This may take the form of a questionnaire, a brief telephone survey or an internet forum on the website of a specific programme. If subtitlers are committed to viewer feedback, they will be in a better position to explain the importance of this to broadcasters and production houses.

Based on the needs of the various viewer groups, subtitlers should be able to advise broadcasters and production houses on:
- the most successful way to subtitle for a specific viewer group, or a combination of viewer

groups (for example those groups that have a lower reading speed and limited vocabulary), and what viewer groups will not be served by a specific set of subtitles
- the type of material that is suitable for subtitling for a specific viewer group
- how viewer feedback on subtitles can be obtained and integrated in existing viewer-need profiles

3.2 Reading rate

The rate at which subtitles is read is not the same as a normal reading rate, since the viewer has to be allowed sufficient time to look at what is happening on-screen, thereby forming a complete picture of the totality of semiotic signals.

In addition to this, the subtitler should realise that there is a wide range of reading rates in subtitling, and that these rates are determined by the material and the needs of viewer groups. In one study, subtitling rates ranged from 80 to 220 words per minute (wpm) with an average of 141 wpm (Jensema & Burch, 1999). The subtitler should know what subtitling rate is suitable for the average subtitle user in the target group, and be trained to work at different speeds. As a rule of thumb, greater condensation will be required to produce subtitles at a lower reading rate. Therefore, subtitler training should pay particular attention to this skill. In order to be able to work at higher reading rates, the subtitler will have to be very creative with the shaping of titles to ensure that the maximum amount of text is presented as readably as possible.

Subtitler training should provide ample opportunity for subtitling at different rates. Apart from familiarising prospective subtitlers with different types of programming that require different subtitling rates, the training should also include subtitling of the same material at varying reading rates with different user groups in mind. The subtitler should ultimately be able to judge when the target reading rate suggested for a specific programme is unrealistic. In this case, the need for condensation will push the amount of information contained in the text below the critical level of what is required for comprehension.

In order to ensure that the wide range of reading rates in the potential subtitle user groups is catered for, subtitlers should be able to:

- identify the appropriate reading speed for the target viewer group
- subtitle the same material at varying speeds
- advise the broadcaster or production house on the suitability of material for subtitling to match the reading proficiency of the target group

3.3 Non-linguistic audio elements

When subtitling is done for deaf and hard-of-hearing viewers, the subtitles must represent essential non-linguistic audio elements in the text. The sound of thunder, or a gunshot in the distance, is an important semiotic element of the television programme. By not communicating this information to the viewer who is hearing-impaired, she or he is placed at a disadvantage. In a sense, the subtitles have then failed the viewer.

In the South African situation, where we do not have the luxury of a separate subtitling service for viewers who are deaf and hard-of-hearing (in the form of teletext subtitles that require decoders), the subtitler will need to find a balance between providing this information and detracting from the pleasure of hearing viewers, or unduly complicating the reading task of beginner readers. The amount of non-linguistic audio information provided will depend on who the main target user group is.

Subtitler training should sensitise subtitlers to the needs of deaf and hard-of-hearing viewers, thereby creating greater deaf-awareness. This can be done by teaching the semiotics of television to subtitlers so that they are able to identify the individual semiotic elements that constitute a programme, and decide which of these should be made accessible through subtitles to a viewer group that is deaf or hard-of-hearing.

Subtitler training should also encourage the use of standardised non-verbal cues for this type of information, such as a smoking gun for a gunshot (this suggestion was made by Henrik Gottlieb in an introduction to a subtitling workshop at the Vaal Triangle Campus of the University of Potchefstroom during July 2001.) Not only will this take up less screen space, it will be less intrusive for viewers who do not need this type of information, and not complicate the reading task of beginner readers. A brief message at the beginning of the programme to introduce the use of standardised

cues may make subtitles more palatable to those viewers who do not need them. This notice should specify that the cues will be used for the benefit of viewers who are hearing-impaired, but that they are less intrusive than traditional verbal descriptions of these semiotic elements. This strategy could form part of a viewer education plan, but can also prove useful in bringing those who do not need subtitles on board by acknowledging their point of view.

For the viewers who are deaf or hard-of-hearing:
- all non-linguistic audio elements should be subtitled
- to minimise intrusion, standardised non-verbal cues should be used

3.4 Language structures

Because of the high degree of phonemic correlation required in subtitling for improved literacy (see 3.5), programme material for this type of subtitling should be sufficiently simple so as not to require marked changes in the language structure of subtitles, as compared to that of audio.

Although Jensema and Burch (1999) advise against the over-editing of sentence structures, subtitle text has been shown to simplify language, especially where translation is involved (cf. Ivarsson & Carroll, 1998; Karamitroglou, 1998; Rosa, 2000). Changes in sentence structure take place according to the rules of the languages involved (for example the positioning of adjectives or adverbs), as well as to make the text as clear as possible so that it does not require re-reading.

Language can be simplified by changing passive voice to active voice, omitting unnecessary repetitions, overlaps, hesitations, reformulations, interjections, incomplete sentences, forms of address, and by concentrating on the meaning of the text (Rosa, 2000: 214). However, the decision to simplify, if not well thought through, may complicate comprehension by increasing the level of inference required. This could be monitored by including the screening of subtitled material to test viewer groups on a regular basis in subtitler training, with special attention to reading behaviour and comprehension.

As far as language structures are concerned, subtitler training should:
- equip prospective subtitlers to make linguistic

choices, where possible, that will simplify reading, without unduly raising the level of inference

• encourage reflection on the nature and consequence of chosen language structures

3.5 Phonemic correlation between audio and subtitle

Although synchronicity in subtitling is a form of correlation, it is a much wider concept than phonemic correlation. According to Gottlieb (1997: 70–71), synchronicity is one of the main features of subtitling. He defines synchronicity as 'the fact that the original film (at least its non-verbal part) and the translated dialogue are presented simultaneously'. As synchronicity is universal to the practice of subtitling and not a unique parameter of subtitling in South Africa, it will not be dealt with in any more detail.

Choices are also important when deciding on the degree of phonemic correlation between audio and subtitle. Phonemic correlation is relevant in intralingual subtitling aimed at the teaching of reading and where the audio and subtitle are in the same language. This type of correlation refers to the representation of the phonemes (the sounds that comprise words) of the audio in the subtitles, concurrently with the audio. In the absence of a high degree of correlation between subtitle text and audio, the viewer will not be able to link the phonemes of the audio to their written representation.

Subtitler training should instil in prospective subtitlers the ability to:

• estimate the type and degree of correlation required between audio and subtitles
• present these elements concurrently with their occurrence on the audio

3.6 Translation

The translation aspect of interlingual subtitling poses its own particular demands. The translation in the subtitle should aim to be a concise semiotic equivalent to the source text (Kruger, 2001). This means that the subtitle should have the same impact as the original within the limited screen space and time. Whereas semiotic equivalence is already very difficult to achieve in a normal translation, the added constraints of time and space imposed by subtitling means that the translation skills of the interlingual subtitler will be put to the test all the more.

To create a subtitle with (near) semiotic equivalence requires a very high level of mastery of the languages involved. Ivarsson and Carroll (1998: 59) argue that subtitlers should always work into their mother tongue, whereas the Australian multicultural channel SBS prefers their subtitlers to work from their L1. In order to ensure that the final subtitle is of L1 quality in the target language, they have a system of subtitler editors (McLennan, 1995). However, there is general consensus that prospective subtitlers should have a high degree of proficiency in both languages in which they intend to work.

Prospective subtitlers should also already dispose of basic translation skills and be familiar with the particular demands of translating between the languages in which they intend to work. Nevertheless, subtitler training should continue to hone translation skills within the context of subtitling. This aspect has special significance in the South African context where it is not uncommon to have fluctuations of up to 25% in the volume of the source and target texts, especially when the translation is done between English or Afrikaans and one of the Nguni languages.

Prospective subtitlers should be encouraged to present subtitling solutions for their particular language to those who work in other languages to increase awareness of the problems involved in the creation of the subtitles. Forums like this will create a greater understanding of subtitling in South Africa, and can also lead to cross-fertilization and the exchange of possible solutions between mutually intelligible languages.

One example of such cross-fertilization is the way in which colour is dealt with in the various South African languages. Whereas Germanic languages (English and Afrikaans) divide the colour spectrum with distinct terms for blue and green, this is not true for all the other South African languages. However, it may be possible for language groups (for example, the Sotho or Nguni groups) to find solutions among themselves that can be used in more than one language of the particular group.

As far as translation is concerned, subtitler training should:

• teach strategies for the achievement of semiotic equivalence between audio and subtitle
• build on a high level of existing proficiency in both the target and source languages

- sharpen translation skills in the context of subtitling
- foster an awareness of the special demands subtitling places on translation between various official languages in South Africa

3.7 Vocabulary

The description of the needs of potential subtitle users indicates a wide range of potential vocabularies among the user groups. At the risk of generalising, it is assumed that children have a smaller vocabulary than adults, that viewers with pre-lingual deafness will have a smaller vocabulary than viewers with post-lingual deafness, and that L1 speakers will have a bigger vocabulary than non-L1 speakers. Although these generalisations may not always apply to specific individuals, skilled subtitlers who know their potential viewer group(s) will be able to create subtitles that will reach the average viewer in that group, using vocabulary that is familiar to them.

A study by Jensema *et al.* (1996: 290) found that viewers in the US need a vocabulary of less than 500 words to understand most of the content of any television programme, in spite of the more than 500 000 words in the English language. If it is assumed that such a 'core vocabulary' also exists for the official languages in South Africa, research should be conducted to identify and define it, and subtitler training should encourage the use thereof. This does not imply that subtitlers should not also attempt to expand their vocabulary. The selective and limited use of words that may be unknown to viewers will present them with an opportunity to extend their vocabulary, provided that the meaning is clear from the context.

Apart from encouraging the use of a core vocabulary for a particular language, subtitler training should also deal with the issue of synonyms and balance brevity with familiarity. Ivarsson and Carroll (1998: 89) recommend that 'if a subtitler is faced with a choice of two synonyms, it is better to choose the more common word if this can be done without doing an injustice to the spirit and style of the original'.

Vocabulary choices are an essential part in the training of subtitlers. Subtitler training should strive to:
- create an awareness of the range of vocabularies of the potential viewer groups
- equip subtitlers to select vocabulary that is appropriate for the subtitle user group(s)

3.8 Summary and integration of user-based parameters

Table 2 below presents a brief summary of the user-based parameters for subtitling in South Africa according to the needs of each of the potential subtitle user groups. Although many of these parameters are similar to those in other countries, their contours differ in the South African subtitling landscape. These differences can be ascribed to the combination of language-political and socio-economic factors that are unique to South Africa.

Although the table is a simplification of the user-based parameters, it identifies similarities and differences between the main potential user groups. This can serve as a basis for subtitlers to determine which groups can have their subti-

Table 2: User-based parameters for subtitling in South Africa

Parameter	Needs of potential subtitle user groups			
	Viewers with pre-lingual deafness	Viewers with post-lingual deafness	Illiterate viewers	Literate non-L1 viewers
User-group profiles required	Yes	Yes	Yes	Yes
Reading rate	Below 140 wpm	140 wpm and higher	Below 140 wpm	140 wpm and higher
Non-linguistic audio elements	Yes	Yes	No	No
Language structure edited down	No	No	No	Yes
Phonemic correlation	No	No	Yes	No
Translation	Yes/No	Yes/No	No	Yes
Limited vocabulary	Yes	No	Yes	No

tling needs adequately served through a single set of subtitles under specific circumstances, and which groups will never be able to be grouped together (an example of the latter is literate non-L1 viewers and illiterate L1 viewers).

From this table it should be clear that the needs of none of these groups are exactly the same as those of any of the others. Any possible combination, for example of the pre-lingually and the post-lingually deaf, will necessarily entail some form of compromise that should be considered carefully. In the case of the combination of the deaf groups, the difference in terms of reading speed and vocabulary may seem to be less significant than the corresponding parameters, but the wide range of reading speeds would make a compromise very difficult to achieve.

It would therefore seem to be more meaningful to combine groups on the basis of reading rate and then to negotiate on aspects such as the inclusion of non-linguistic elements.

4. Conclusion

This article has provided a description of the needs of potential subtitle user groups in the South African context. The needs description indicates pronounced differences between some groups in terms of reading speed, vocabulary, access to non-linguistic audio elements and knowledge of source language.

The broad implications of these parameters for subtitler training are as follows:

• subtitling will only be able to address these needs if subtitlers are trained to subtitle with the needs of specific subtitle users groups in mind, based on user group profiles. Subtitlers should also be able to advise decision-makers on the suitability of programme material for subtitling, and the style of subtitling. User group profiles should be kept current based on systematic and representative user feedback

• subtitler training should provide the opportunity for the subtitling of material at different reading speeds, as well as the knowledge to decide on the appropriate reading speed for the average viewer in a particular user group and the suitability of material for subtitling at a specific rate

• all non-linguistic audio elements should be subtitled in subtitling for the hearing-impaired, and the use of standardised non-

verbal cues should be encouraged to minimise intrusion, especially where the target viewer group includes beginner-readers

• subtitler training should equip prospective subtitlers to make choices that will simplify reading, without unduly raising the level of inference, and encourage reflection on the nature and consequence of chosen language structures. This should be balanced with the need for phonemic correlation in subtitling for beginner readers

• furthermore, it should instill in prospective subtitlers the ability to estimate the type and degree of correlation required between audio and subtitles, and to present these concurrently with the audio

• translation as part of subtitler training should build on a high level of existing proficiency in both the target and source languages, as well as sharpen translation skills in the context of subtitling. It should also foster an awareness of the special demands subtitling places on translation between various official languages in South Africa

• subtitler training should create an awareness of the range of vocabularies of the potential viewer groups, and equip subtitlers to select vocabulary that is appropriate for the target subtitle user group(s)

These parameters are by no means the only requirements for subtitler training in South Africa, although they shape the nature of the South African subtitling landscape. They should form part of a South African course for the training of subtitlers, based on universal subtitling skills such as condensation, synchrony and the attainment of semiotic equivalence.

The next article in this series, 'Subtitler training in South Africa and existing programmes in developed and developing countries' (Kruger & Kruger, forthcoming), investigates existing subtitler training programmes in foreign countries to determine to what extent they are useful in the South African context. The extent to which these programmes are suitable to the South African subtitling scene will be determined by the extent to and success with which these parameters are dealt with in the respective programmes. The final article in the series will propose an outline for a curriculum for the training of subtitlers in South Africa.

Avenues for research that do not fall within the scope of the current study include qualita-

tive research into the reading behaviour of the various potential subtitle user groups in South Africa, a long-term quantitative study on changes in literacy levels as a result of subtitling, the standardisation of non-verbal cues for non-linguistic audio elements, the development of core vocabularies for subtitling in the various official languages and the contribution subtitling could make to the language status of particularly the more marginalised languages.

Notes

1 'Captioning' is the American and Australian term for the European term 'subtitling'. This article will use 'subtitling', as it offers greater terminological clarity, except when quoting from sources that use the terms 'caption', 'captioned', 'captioning' or 'captioner'.

2 While making audio information available in visual format, subtitles are also successful in raising literacy levels, language proficiency and comprehension in deaf and hard-of-hearing viewers (cf. Nugent, 1983; Koskinen *et al.*, 1986; Hanson & Padden, 1989; Lewis & Jackson, 2001).

3 For the purpose of this article, the category non-L1 viewer does not include illiterate viewers, as they have already been dealt with in the previous category.

4 Language transfer for illiterate viewers should be done through dubbing or re-narration (voice-over), although the first is expensive compared to subtitling (Ivarsson & Carroll, 1998: 11), and the second is unsatisfactory because the whole soundtrack is re-narrated by one voice.

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