

# THE MAJOR PROJECT OF EDUCATION

## in Latin America and the Caribbean

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# Presentation

*On the eve of a new century and a new millennium, mankind finds itself pitted against a swarm of trends and threats where violence –in its various manifestations– is present to an astonishing degree, particularly considering the high level of development humanity has attained. The evidence that points to the inter-relatedness of these events, makes the adoption of integral solutions to peace – building efforts an absolute necessity, if society is ever to attain lasting peace.*

*Precluding war by identifying its roots; addressing the injustice provoked by misery and exclusion; healing the open sores of social inequalities; working towards development and freedom of expression –so that law becomes justice–; and, towards a fairer distribution of resources –regardless of their nature–, are some of the present challenges humanity must be measured against.*

*In this spirit, in 1997, the United Nations declared the year 2 000 the International Year of a Culture of Peace, and its mission, to mobilise public opinion in order that the tenets of a real culture of peace may be adequately established and disseminated.*

*The principle underpinning this World Movement, has been inspired in a broad definition of a culture of peace which, in turn, is based on respect for human rights, democracy and tolerance, the promotion of developmental initiatives, education for peace, the unrestricted dissemination of information, and greater participation by women.*

*Through this movement, the United Nations System –and UNESCO in particular– have made a direct appeal to every individual so as to evoke a sense of personal responsibility in the matter, while placing their influence and communication network at the service of the various groups and organisations concerned with furthering this crusade.*

*The present issue of the Bulletin of the Major Project of Education in Latin America and the Caribbean, contains background information of the struggle for peace being waged by UNESCO, as well as its objectives, and the 2000 Manifesto, which may be viewed as the personal contribution of each of our readers. Our contribution in this respect, is to facilitate the reproduction of this manifesto as many times as it is necessary so that the largest number of individuals may materialise their commitment to this cause – which is everybody's cause.*

*The bulletin also includes what is probably the most extensive intercultural study on the role of violence in the child – oriented media, ever conducted by UNESCO. Jo Groebel's work, provides data that can not leave us indifferent. Among them, that 93 per cent of the children interviewed in our region, Asia and Africa, have access to a television set; that the children population of the world devote 50 per cent more time (on average, 3 hours a day) to this diversion than to any other*

*extra-curricular activity including, doing homework, reading, or spending time with their families; or that, actor Arnold Schwarzenegger's "Terminator" has become a household word for 88 per cent of the world's children. In Chile, children spend a daily average of 2 hours sitting in front of a television set, by far their main leisure time activity. This information is offered by Claudio Avendaño and Pilar Izquierdo, who have concluded that this activity, as a result of limiting conditions, constitutes a surrogate of other perhaps more desirable ones, such as practising sports or playing with friends. As a contribution to this problem, the authors provide information about the Communications and Education Advanced Studies being offered at Chile's Diego Portales University, along with a brief description of the course. The idea is to empower teachers to renew the communication strategies applied to the teaching – learning process, assume the reality of today's world, and serve as mediators for communications and culture. Rosa María Torres, through her article "The new role of the teacher: What teacher education model for what education model?", points to the inescapable conclusion that there is no single answer nor a universal menu of recommendations that may provide the answer to the question what to do about the teachers' lot, and particularly about the teacher training issue. According to the author, the predetermined role and profile of the "new teacher" has translated into a long list of "desirable skills", which in actual practice, however, has raised important technical objections that call for fresh solutions. Ernesto Schiefelbein, Laurence Wolff and Paulina Schiefelbein, offer us their new approach to evaluating the cost – effectiveness of educational interventions. Rather than relying on past empirical research studies, the authors sought the opinion of ten world – renowned experts who were asked to assess the impact a set of forty interventions would have in the learning curve of primary school students. Results reveal that in the past twenty years, many of the highly cost – effective interventions identified in this indicator, have not formed part of region's educational projects. As is customary, the latest OREALC publications are included in the present issue.*

## THE UNESCO GLOBAL STUDY ON MEDIA VIOLENCE

**Dr. Jo Groebel\***

*Children and adolescents have always been interested in arousing, and often even violent stories and fairy-tales. With the occurrence of mass-media, film and in particular television however, the quantity of aggressive content daily consumed by these age groups has dramatically increased. As real violence, especially among the youth at the same time is still growing, it seems plausible to correlate the two, media violence and aggressive behaviour. With more recent media developments, video recorders, computer games and the internet one can see a further increase of extremely violent images which obviously find much attention. Videos present realistic torture scenes and even real murder, computer games enable the user to actively simulate the mutilation of “enemies”, the internet has –apart from its prosocial possibilities– become a platform for child pornography, violent cults, and terrorist guidelines. Even with these phenomena, however, it is crucial to realize, that still the primary causes for aggressive behaviour will most probably be found in the family environment, the peer groups, and in particular the social and economic conditions, children are raised in (Groebel and Hinde, 1991).*

And yet, media play a major role in the development of cultural orientations, world views and beliefs, as well as in the global distribution of values and (often stereotyped) images. They are not only mirrors of cultural trends but can also channel them, and are themselves major constituents of society. Sometimes they are even direct means of inter-group violence and war propaganda.

All in all, it is important to identify their contribution to the propagation of violence, if one considers possibilities of prevention.

Thousands of studies have demonstrated the risk of media violence to stimulate aggression. Until now, however, no single study dealt with the problem on a global scale.

In this situation UNESCO decided to initiate a project which should analyse the international importance of the issue. In particular, possible cultural differences: as well as the influence of different aggressive experiences in the actual environment (war and crime) and the different media available for the children were to be identified. To that end, an intercultural questionnaire study was developed.

About 5.000 12-year old boys and girls from 23 different countries around the world will have participated in the project. This means that this study is the biggest of its kind ever conducted with respect to the number of subjects and countries included. For at least half of the countries involved in this research study, it was the first time that a research of this type was undertaken.

The World Organization of the Scout Movement accepted overall responsibility for the

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\* Dr. Jo Groebel. Utrecht University. The Netherlands.  
A joint project of UNESCO, the World Organization of the Scout Movement and Utrecht University.

field work of the study, including the organization of international logistics, training of people responsible, questionnaire distribution, and data collecting procedure.

The scientific supervision, data processing, and integration of the study was done by Prof. Dr. Jo Groebel of Utrecht University. Statistics were supplied by Willem van Leerdam of Tangram. The University of Utrecht offered overhead support through its stimulation fund. Jean Cassaigneau and Mateo Jover of the World Scout Bureau supervised most of the logistics and contributed to the methodology. We thank all the national contributors and supporters of the study, in particular the National Scout Organizations involved. Their officials and leaders, teachers and parents, and not the least of all, the thousands of students who participated in the project all over the world.

### **The media**

With the technical means of automatization and, more recently, of digitalization any media content has potentially become global. Not only do individual news reach nearly any part of the world, also mass entertainment has become an international enterprise. E.g., American or Indian movies can be watched in most world regions.

Much of what is presented contains violence. In high literature art as well as in popular culture it has always been a major topic of human communication. Whether it is the *Gilgamesh*, a Shakespearean drama, the *Shuihu zhuan* of Luo Guanzhong, Kurosawa's *Ran*, stories of Wole Soyinka, or ordinary detective series, man seemed always to be fascinated by aggression.

This fascination does not necessarily mean that destructive behaviour is innate; however, it draws attention as it is one of the phenomena of human life which cannot be immediately explained and yet demands consideration of how to cope with it if it occurs.

Nearly all studies around the world show that men are much more attracted to violence

than women. One can assume that, in a mixture of biological predispositions and gender role socializations, men often experience aggression as rewarding. It fits with their role in society but may once also have served the motivation to seek adventure when exploring new territory or protecting the family and the group.

Without an internal (physiological thrill seeking) and an external (status and mating) reward mechanism men may rather have fled leaving theirs unprotected. But apart from "functional" aggression humankind has developed "destructive" aggression, mass-murder, hedonistic torture, humiliation, which cannot be explained in terms of survival. It is often these, which are widely distributed in the media.

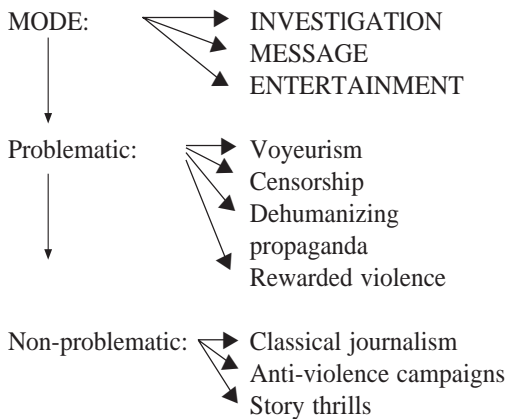
The media themselves differ in their impact. Audiovisual media in particular are more graphic in their depiction of violence than books or newspapers; they leave less freedom in the individual images which the viewers associate with the stories. As the media become ever more perfect with the introduction of three dimensions (virtual reality) and interactivity (computer games and multimedia) and as they are always accessible and universal (video and internet) the representation of violence "merges" increasingly with reality.

Another crucial distinction is that between "context-rich" and "context-free" depiction of violence. Novels or sophisticated movies usually offer a story around the occurrence of violence. What is its background, what are its consequences. Violence as a pure entertainment product however often lacks any embedding in a context which is more than a clichéd image of good and bad. The final difference between the individual media forms has to do with their distribution. A theater play or a novel are nearly always singular events, the modern mass media, however, create a time- and space-omnipresence.

Even here, a distinction between problematic and non-problematic forms of media vio-

lence has to be made. A news program or a TV documentary which present the cruelty of war and the suffering of its victims in a non-voyeuristic way are part of objective investigation or may even serve conflict-reduction purposes. Hate campaigns, on the other hand, or the glorification of violence stress the “reward” characteristics of extreme aggression.

In general, one can roughly distinguish between three different modes of media content: purely investigative (typically news), message oriented (campaigns, advertisement), and entertainment (movies, shows). For any of these, one can distinguish between problematic and non-problematic forms:



Although often these criteria may not be easy to determine, there are clear examples for each of the different forms: Reality TV or paparazzi activities may have to do with the truth but they also, in the extreme, influence this very truth through their own behaviour, see the discussion surrounding Princess Diana’s death.

Through the informal communication patterns on the Internet also rumours have become part of “serious” news reporting as the discussion around the American president in January 1998 has shown. Whether true or not, deviant groups and cults can influence the global information streams more efficiently than ever before.

The cases of Serbia and Rwanda on the other hand have demonstrated the role which “tradi-

tional” mass-propaganda through the radio still can play in genocide.

Many incidents around the world finally indicate that children often lack the capacity to distinguish between reality and fiction and take for granted what they see in entertainment films stimulating their own aggression. If they are permanently exposed to messages which promote that violence is fun or is adequate to solve problems and gain status, then the risk that they learn respective attitudes and behaviour patterns is very high.

## Theories and research studies

### General theoretical background

Many scientific theories and studies have dealt with the problem of media violence since the beginning of the 20<sup>th</sup> century. Most of them originate in North America, Australia/New Zealand or Western Europe.

But increasingly, Asia, Latin-America, Africa are contributing to the scientific debate. The most influential studies are briefly presented. They cover a broad range of different paradigms: cultural studies, content analyses of media programs, behavioural research. However, the terms aggression and violence are exclusively defined here in terms of behaviour which leads to harm of another person.

For phenomena, where activity and creativity have positive consequences for those involved, other terms are used. Recently, scientists have overcome their traditional dissent and have come to some common conclusions. They assume a media effects risk which depends on the message content, the characteristics of the media user, and his family, as well as his social and cultural environment. All in all, children are more at risk to be immediately influenced than adults.

But certain effects, like habituation, also hold for older age groups. While short-term effects may be described in terms of simple causal relationships, the long-term impact is more adequately described as an interactive process

which involves many different factors and conditions. Yet, as the commercial and the political world strongly rely on the influence of images and messages (as seen in the billion dollar turnover of the advertising industry or the important role of media in politics), it seems naive to exclude media violence from any effects probability.

The most influential theory on this matter is probably the Social Learning Approach by Albert Bandura and his colleagues. As much of what people learn happens through observation in their immediate environment it can be concluded that similar processes work through the media. Many studies have demonstrated that children especially either directly imitate what they see on the screen or they integrate the observed behaviour patterns into their own repertoire.

An extension of this theory considers the role of cognitions. If I see that certain behaviour, e.g., an aggressive one, is successful, I believe that the same is true for my own life. Groebel (1993) and Donnerstein (National Violence Study, 1997) both show in European and US-American studies that nearly 75% of the aggressive acts depicted on the screen remain without any negative consequences for the "aggressor" in the movie or are even rewarded.

### *The script theory*

The so-called "script theory", among others, propagated by Rowell Huesmann and Leonard Eron, assumes the development of complex world views ("scripts") through media influence. If I over-estimate the probability of violence in real life (e.g., through its frequency on the TV-screen), I develop a belief-system where violence is a normal and adequate part of modern society.

The role of the personal state of the viewer is stressed in the frustration-aggression-hypothesis (see Leonard Berkowitz). Viewers who have been frustrated in their actual environment, e.g., through been punished, insulted, or

physically deprived, "read" the media violence as a signal to channel their frustration into aggression. This theory would explain why in particular children in social problem areas are open to media-aggression effects.

The contrary tendency has been assumed in the "catharsis-theory", and later the inhibition-theory by Seymour Feshbach. As in the Greek tragedy, aggressive moods would be reduced through the observation of similar states with others (substitute coping). Inhibition would occur when the stimulation of own aggressive tendencies would lead to (learned) fear of punishment and thus contribute to its reduction. While both approaches may still be valid under certain circumstances, they have not been confirmed in the majority of studies and their original author, Feshbach now also assumes a negative effects risk.

### *Excitation and transfer*

A lot of the fascination of media violence has to do with physiological arousal. The action scenes, which are usually part of media violence, grab the viewer's attention and create an at least slight "kick", more probably among males. At the same time, people tend to react more aggressively in a state of arousal. This would again explain why arousing TV scenes would lead to higher aggression among frustrated/angered viewers, as Dolf Zillmann explains in his "excitation-transfer theory". In this context it is not the content but the formal features, sound and visual effects that would be responsible for the result.

Among others, Edward Donnerstein, Neil Malamuth, and Donald Linz have investigated the effect of "long-term exposition" to extremely violent images. Men in particular get used to frequent bloody scenes, their empathy towards aggression victims is reduced.

The impact of media-violence on anxiety has also been analyzed. George Gerbner and Jo Groebel both have demonstrated in longitudinal studies that the frequent depiction of the world as threatening and dangerous leads to

more fearsome and cautious attitudes towards the actual environment. As soon as people are already afraid or lack contrary experiences they develop an anxious world view and have difficulties in distinguishing between reality-and-fiction.

Cultural studies have discussed the role of the cultural construction of meaning. The decoding and interpretation of an image depends on traditions and conventions. This could explain why an aggressive picture may be “read” differently, e.g., in Singapore than in Switzerland, or even within a national culture by different groups. These cultural differences have definitely to be taken into account. Yet, the question is, whether certain images can also immediately create emotional reactions on a fundamental (not culture-bound) level and to what extent the international mass media have developed a more homogeneous (culture-overspanning) visual language.

Increasingly, theories from a non-Anglosaxon background have offered important contributions to the discussion. In Paris, a UNESCO-sponsored congress was held in 1997 chaired by E. Auclair where many of these approaches, including Psychoanalysis and Psychiatry, were presented. This event continued a series of meetings which had been started in Lund in 1995, where the global platform on media violence had led to the creation of the UNESCO International Clearing House on Children and Violence on the Screen, with headquarters in Goteborg (and probably Utrecht; see the reports of Nils Gunnar Nilsson). A 1998 Yearbook entitled *Children and Media Violence* will be published shortly by the Clearing House.

### ***The compass theory***

As basis for the UNESCO study, Jo Groebel has formulated the “compass-theory”. Depending on already existing experiences, social control, and the cultural environment, media content offers an orientation, a frame of reference which determines the direction of one’s own

behaviour. Viewers do not necessarily adapt simultaneously what they have observed; but they measure their own behaviour in terms of distance to the perceived media models. If extreme cruelty is “common”, “just” kicking the other seems to be innocent by comparison if the cultural environment has not established a working alternative frame of reference (e.g., social control; values).

In general, the impact of media violence depends on several conditions:

- media content - roughly 10 acts of violence per hour in the average programming (see the recent US-National TV Violence Study by Donnerstein and colleagues, 1997);
- media frequency;
- culture and actual situation; and
- the characteristics of the viewer and his family surrounding.

Yet, as the media now are a mass-phenomenon, the probability of a problematic combination of these conditions is high. This is demonstrated in many studies. Based on scientific evidence, one can conclude: the risk of media violence prevails.

### **Method and design of the UNESCO study**

A study which is to be conducted in different countries and cultures faces several problems: The logistics are difficult; many countries do not have scientific faculties that could run the study there; the cultures are so different that not only language problems but also differences in the social meaning of terms appear. Therefore the authors of this project chose a standardized procedure.

All logistics were centrally organized by the World Organization of the Scout Movement from their Geneva headquarters. The organization used their international network of National Scout Organizations to conduct the study in the respective countries. To that end, two officers of the Scout Movement travelled to the countries in the sample (see below) and instructed their local representatives in how to



apply the procedure. In addition, the World Scout Organization took care of the translations into the different national languages and the necessary pretests in each country. The advantage of the Scout Movement, apart from its logistics, is its strict political and ideological independence. Thus, no intended or unintended interference based on a certain belief system was to be expected.

Although language and meaning are always culture-bound we chose a questionnaire-procedure to analyze the relationship between media-preferences and aggression. By applying exactly the same questions all over the world a maximum comparison was possible. As we limited the items to descriptive, preference and behavioural data, excluding evaluations and performance measures we assume a relatively culture-independent measurement. Of course, systematic differences in preferences are indicators of cultural specifics.

That was exactly what we wanted to measure. The reliability and the validity of the data are not reduced through that approach. The regional pre-tests demonstrated that all children could comprehend the questionnaire which they had to fill in during classes and that all items were meaningful to them. Of course, without financial and time constraints, an even better pre-testing would have been possible. However, the *a posteriori* analyses confirmed the quality of the work.

The questionnaire itself consisted of a mixture of text-questions with mostly multiple-choice answers and very simple (again, culture-free) sketches which depicted a number of social situations. The children then had to choose between several options, e.g., an aggressive or a peaceful solution to a depicted conflict. Several factors were investigated:

- the children's demographics, their social and family situation,
- media use and preferences,
- level of aggression in their environment,
- their own aggressive tendencies,
- level of anxiety, and their perception of values and orientations.

All in all, 50 different variables were included.

### *Core group*

The sample for the study consisted of an original core group of 23 different countries around the world, where, depending on country-size, between 150 and 600 12-year old school children (boys and girls) were to be investigated respectively. The countries were selected to represent different regions and social development structures, cultures, and economic and social circumstances.

After finishing the remaining core data, roughly 5,000 international 12-year-olds contributed to the project. The participating countries are: Angola, Argentina, Armenia, Brazil, Canada, Costa Rica, Croatia, Egypt, Fiji, Germany, India, Japan, Mauritius, the Netherlands, Peru, Philippines, Qatar, South Africa, Spain, Tadjikistan, Togo, Trinidad and Tobago, Ukraine.

In addition to the core-group, an even broader "control group" of countries was organized by the scientists from Utrecht University. With this additional group, including Austria, Russia, the USA, and most probably France, Great Britain, Sweden, and Poland, a link with already existing national research shall be established.

A quota-sample was used, which considered three criteria: gender, rural versus metropolitan environment, high versus low level of aggression in the students' actual environment. With the last two, the sample was systematically structured. Gender was assumed to be equally distributed across the schools. In addition, the types of school were nationally chosen to represent the respective school systems.

The age was fixed at 12 years in order to standardize possible developmental effects. Many studies have dealt with age differences, and the age of twelve seems to be a period where the interest in media is particularly high, at the same time children are still in the process of socialization. 12 years is the age where

start to become adolescents and are particularly interested in adult role models and respective media images. Of course: “psychological age” and maturation may differ interculturally but still fundamental developmental stages are valid across cultures, as many studies have shown. In any case, we decided to standardize the age factor.

The gathering of the data was started in the fall of 1996 and finished with this report in September 1997. Thus, it is not only one of the largest, but also one of the most actual and “fastest” media-effects projects ever conducted.

## **The results**

About 350 000 individual data were obtained and processed (more than 5,000 students with more than 60 variables each).

In the first step, simple analyses were applied, in order to get a general overview of the demographics, the global media use, and the state of violence among children around the world. In addition, first indicators of the correlation between media use and individual aggression were obtained.

In this stage, most results are based on frequency-and percentage-tables plus a few cross-tabulations. More sophisticated analyses will be featured in a later stage (for the experts: including structural analyses and multivariate models).

## ***The demographics***

### *Global statistics*

2 788 boys and 2 353 girls participated in this stage of the study; all were 12 years old. Boys (54.1%) are thus slightly over-represented compared to girls (45.6%). However, this was intended as we regarded boys as the bigger risk group.

About 80% of the children live with both parents; 13% only with their mother, 2.5% with their father. The remaining live with relatives, in orphanages, or alone.

49% live in a big city, 28% in a small town, 20% in little villages, the remaining 3% in camps or single houses.

The majority of children have fathers who work as employees, 10% do not know their father’s profession (as they may not know him). About 9% of the children already have experienced fleeing a country.

Nearly 40% of the mothers around the globe take care of the household as their primary profession. Most children live in small to medium-size families either alone with their parents or with just one or two more brothers or sisters (about 90%).

About one third of the children were rated (by the local Scout representatives) to live in an aggressive environment or to face problems. The originally proposed 50% match could not be reached as several countries seem to have hardly any such area, which could be easily identified.

### *Regional differences*

In this stage of the study, we concentrated on four “regions”, not the individual countries: Africa, Asia/Pacific, Europe/Canada, Latin America.

By doing so, we brought together areas which between themselves may differ immensely. We “merged” Europe and Canada as we assume some common cultural basis. This of course is also partly true for Europe and Latin- America.

However, for Latin-America there were sufficient numbers of countries to form their own cluster. In any case, this clustering was not more than a first testing of rough cultural differences or overlaps. Some results: Africa has the fewest children of our sample which live together with both parents (app. 72%), Asia the most (88%), Latin-America (75%) and Europe/Canada (83%) are in between.

Asia has the most children living in big cities (56%), Europe/Canada (43%) the least. Africa has the most refugees (12%), Latin-America the least (4%).

Not all of these numbers may fit with an objective global count, but some regions were not accessible at all; we also could only investigate children who were able to read. Yet, for the purpose of the study the data seem to be sufficiently valid.

A remarkable difference showed with respect to the mother's profession: While in Latin-America 51% and in Asia 55% of the mothers were reported to take care (exclusively) of the household, the numbers for Europe/Canada are 33% and for Africa 9.9%. For different reasons, most mothers in these two regions also work in other positions (take care of everything: are employed).

All in all, the country selection represented the complete UNDP-index range.

### **Media use**

#### *Global statistics*

97% of the school areas in our sample can be reached at least by one TV broadcast channel. For most areas the average is four to nine channels (34%), 5% receive one, 3% two, 9% three channels, 11% ten to twenty, and 18% more than twenty channels. The percentages are minimum values, as 17% did not answer this question.

91% of the children in our global sample have access to a TV set, primarily at home. Thus, the screen has become a universal medium around the world. Whether it is the "favelas", a South Pacific island, or a skyscraper in Asia, television is omnipresent, even if we consider that we did not cover some regions where TV is not available at all.

This result justifies the assumption that it still is the most powerful source of information and entertainment outside face-to-face communication. This is confirmed by further statistics. Even radio and books do not have the same distribution (91%, 92%).

All other media follow with some distance: newspaper 85%; tape recorder (e.g. cassette)

75%; comics 66%; video recorder 47%; video games (like "gameboy") 40%; PC 23%; internet 9%.

The children could report how much time they spend with several favourite activities.

The children spent an average of 3 hours daily in front of the screen. That is at least 50% more time spent with this medium than with any other activity including home-work (2 hours), helping the family (1.6 hours), playing outside (1.5 hours), being with friends (1.4 hours), reading (1.1 hours), listening to the radio (1.1 hours), to tapes/CDs (0.9 hours), or using the computer (0.4 hours, for whom it applies).

Thus, TV dominates the life of the children around the globe.

#### *Regional differences*

Europe/Canada have the highest distribution of TV (nearly 99%), Africa the lowest (83%). Actually in our study the distribution of TV may be overrepresented for Africa, as we did not consider non-school groups or areas without any electricity available. Latin-America comes a close second after Europe/Canada (97%), Asia has 92%.

The order is roughly the same with most other audiovisual media, like video, PC, games, see the numbers under global statistics. Radio plays still an important role in Africa, here the percentage is similar to Europe/Canada and Latin-America (app. 91%), and slightly higher than in Asia (88%).

### **Orientations and values**

#### *Global statistics*

The emotional states, as well as their ideals are important factors which moderate how children cope with their environment and how they evaluate what they observe in the media. Of course, the media themselves can influence these states and norms.

*What is the general emotional state of the children?*

About two thirds report that they are happy most of the time. About one fourth know the feeling, but do not regularly experience it, about 2.5% say that they are never happy.

There is no difference between boys and girls. Nearly half of the children are anxious most of the time or often, with again no difference between boys and girls.

About 47% of the children report that they would like to live in another country (either for adventure or for escapism reasons).

Although the majority of the children are relatively happy, a remarkable number live in a problematic emotional state.

*What kind of persons are perceived as role models by the children?*

They could give a name which then was ordered along a list of different characteristics. The results again demonstrate the importance of the media.

Most children (26%) name an action hero, followed by popstars and musicians (18.5%). However, there are important gender differences.

30% of the boys mention an action hero, as compared to 21% of the girls. But even for the female group this character comes second after popstars/musicians (girls: 27%, boys: 12%).

Other personalities play a less important role: About 8% name a religious leader; 7% a military leader (boys: 9%, girls: 3.4%), 6% a philosopher/scientist, 5% a journalist, and only 3% a politician. The remaining are personal acquaintances or have other roles.

This confirms the global trend: Action heroes and popstars are the favourite role models among children.

Nevertheless, religious beliefs are still widely spread: About 90% of the children report that they believe in (a) God.

*What are the personal values of the children?*

40% report that their favourite wish is to have a family, because they either live in a

functioning parent-child relationship or because they lack it but would like to have it.

For 10% enough food is the favourite. This may mean that this group regularly experiences food-deprivation.

For 25% of the boys the favourite wish is always to be a winner, 19% of the girls say the same.

### *Regional differences*

The emotional states seem to differ somewhat between the world regions. While happiness is more or less equally distributed (with Latin America being a little "happier" than Africa, Europe/Canada, and Asia. in that order), remarkable differences occur when it comes to being anxious. Around 50% of the children in Africa, Latin America, or Asia or (very) often anxious as compared to about 36% in Europe/Canada.

There are regional differences between the favourite heroes: Asia has the highest ranking for action heroes (34%), Africa the lowest (18%), with Latin America and Europe/Canada in between (25% each). This may have to do with the significantly lower saturation of audio-visual media in Africa, but may also have other cultural reasons.

However, there is a clear correlation between the presence of TV and reporting action heroes as favourites.

The favourites in Africa are popstars/musicians (24%) with Asia the lowest (12%). Africa has also high rankings for religious leaders (18%), as compared to Europe/Canada (2%), Latin America (6%); and Asia (6%).

Military leaders score highest in Asia (9.6%), and lowest in Europe/Canada (2.6%). Journalists score well in Europe/Canada (10%), low in Latin America (2%). Politicians rank lowest in Europe (1%), highest in Africa (7%).

Again, there may be a correlation with the distribution of mass media: the more TV, the higher the rank of mass-media personalities, and the lower the traditional ones (politicians, religious leaders). In Europe/Canada, journalists get ten times as many votes as politicians.

There is a strong correlation between the accessibility of modern media and the predominant values and orientations.

### *Violence and aggression*

As reported, roughly one third of the children in our sample live in a high-aggression environment or problematic neighbourhood. This ranks from high-crime areas over recent-war zones and (refugee) camps to economically poor environments which of course do not have to be aggressive *per se*.

Yet, in these areas, more than twice as many people seem to die of being killed by others than in the low-problem neighbourhoods (children's reports: 16% versus 7%).

Again, twice as many children there are a member of an armed gang (5.2%) as compared to the low-aggression areas (2.6%). They report more personal enemies (9% versus 5.9%) and regard attacking more often as fun than the children from the low-aggression neighbourhoods (8% versus 4.7%). They also have used weapons more often against someone (7.5% versus 5.5%). Thus, it comes as no surprise, that they are also more anxious (most of the time: 25% versus 19%), and would like to live in another country (53% versus 46%).

But they also report a similar happiness as the low-aggression group. However, their world view is obviously influenced by their experience: Nearly one third of the aggression-environment group believe that most people in the world are evil (compared to slightly more than a fifth of the low-aggression-area group).

The pattern is clear and plausible: In high problem areas, children do not only experience more aggressive behaviour they are also emotionally and cognitively affected: more hedonistic violence, more anxiety, a more pessimistic world view.

### *Regional differences*

Different forms of aggression are evaluated differently in the cultures of the world. We

wanted to know whether a physical attack or a verbal insult is perceived as more "damaging".

The results confirm the cultural differences. In Europe and Canada, children regard a physical attack with fists as worse (55.5%) than being given insulting names (44%). In Asia, the opposite is the case. For nearly 70%, verbal insults are worse than physical attacks (29%). Africa is similar to Asia (verbal: 63%, physical: 35%). Latin America is balanced (50% each).

In different situations, where is the highest probability of aggressive reactions to be found? We presented a number of simple sketches which showed a variety of social situations: A verbal conflict, a physical attack, a recorder damaged by another child, a stereo which a child urgently wanted to have, a group of people hanging around. For each of these situations, the children should say, how the involved persons would react, and what they themselves would do in a similar situation.

In situations of social conflict, children in Africa reported most frequently that they would regard physical attacks as adequate reaction: E.g., 32% hitting the other as reaction to verbal insult (Asia 15%, Latin America 14%, Europe/Canada 16%); 9% even reported shooting the other as adequate.

Nearly one third in Africa reported, that a group of people hanging around would attack another group as next action (Asia 28%, Europe/Canada 20%, Latin America 19%).

At the same time, children in Africa experience having a gun as a powerful feeling more often than in the other regions (25%; Latin America 18%; Europe/Canada 18%; Asia 10%).

They also report that they themselves have a gun more often (4.5%; Latin America 3.5%; Asia 3.3%; Europe/Canada 2.4%). In general, children in Africa and Asia have twice as often used a weapon against someone (7.1%; 8.3%) as those in Latin America and Europe/Canada (4.4%; 3.6%).

All in all, the children's aggressive behaviour patterns and perceptions are a mirror of what

they experience in their real environment; frustration, aggression, problematic circumstances.

However, to what extent do the media contribute to these patterns? To what extent do they channel the already existing aggressive predispositions?

### *Media violence*

Most studies show that the relation between media violence and “real” violence is interactive.

Media can contribute to an aggressive culture; people who are already aggressive use the media as further confirmation of their beliefs and attitudes, which, in turn, are reinforced through media content. This interaction is especially true for long-term developments.

At this stage of the study, we can offer some correlations between media and “real” violence. A one-directional effect cannot be assumed on the global level and could also not be empirically tested. The study focuses on the role of the media in the complex culture of violence beside other influences.

A major question is, whether children are able to distinguish between reality and fiction. Another one deals with the perception that media and everyday-experiences are similar. We compared the children from the high- and the low-aggression environments and asked them whether what they saw in the media resembled their own experiences.

### *Reality or fiction?*

In all cases, the high-aggression-area group reported a stronger overlap between reality and fiction than the low-aggression-area group (movies: 46% versus 40%; TV: 72% versus 69%; radio: 52% versus 48%; comics: 26% versus 22%; all in all not an extreme, but homogeneous trend).

Thus, they are more probably confronted with similar aggressive messages in their actual environment and in the media with a higher

probability than children from a less-violent neighbourhood. Obviously, media content reinforces the already mentioned belief that most people are evil.

Many children are surrounded by an environment where “real” and media experiences both support the view that violence is natural.

The fascination of violence is often related to strong characters who can control their environment, are (in the end) rewarded for their aggression, and can cope with nearly every problem. The message is at least threefold:

- aggression is a good means to solve conflicts;
- aggression offers status;
- aggression can be fun.

The larger-than-life hero of course is an old theme of art and literature. It serves both needs, the compensation of one’s own deficits, and the reference point for one’s own behaviour. Relatively new; however, is the global uniformity of such heroes through the mass media and their commercial weight.

One such media figure is the *Terminator* character from two movies of the same name, starring the actor Arnold Schwarzenegger. Our results confirm that *Terminator* is a cross-cultural hero. About 88% of the world children population (if our sample is representative) know him.

In the comparison between high- and low-aggression areas it is remarkable that 51% of the children of the high-aggression environment would like to be like him as compared to 37% in the low-aggression neighbourhoods. He seems to represent the characteristics which children think are necessary to cope with difficult situations.

Equally successful are heroes like “Rambo”, and of course “local” heroes from the respective domestic media markets, e.g., India, Brazil, or Japan.

An aggressive media hero is particularly “successful” as role model in the high-aggression areas of the world. Some of these heroes have become culture-overspanning icons.

### *Sensation seeking*

Are there any systematic patterns in the aggressive cognitions which link personal motives, actual environment, and media content?

We analyzed the correlation between different forms of “sensation seeking” (the motive to be thrilled through risk and adventure), a relatively stable personality characteristic, on the one hand, and different actual and media environments on the other.

There was no difference in sensation seeking in the high- and the low-aggression environment. That is plausible, as this personality characteristic is assumed to be highly genetically determined, thus relatively free of environmental influences.

However, when we split up the sample into a group with a comparatively well developed technological infrastructure and one with a less well developed one (criterion: distribution of computers, then “median”-split=50% high/low dichotomy), the picture changed.

Twice as many children in the “high technology” group as in the “low technology” group reported a risk-seeking tendency (20% versus 10%).

In terms of regions, Africa has by far the lowest (7.3%), Europe/Canada (18.9%) the highest scores, with Asia (18.5%), and Latin-America (15.9%) following close. This may have to do with two aspects:

- the sensory stimulation is probably higher in high-technology environments; it thus creates a generally higher state of permanent arousal;
- with a higher availability of media programming, the risk-seeking tendency is modelled into uniform patterns which mirror the content of the media (e.g., the car chase as a movie icon).

To test the latter, we linked the sensation-seeking tendency in an additional analysis with the preference for media content. The picture is clear. Children, and in particular boys, with a risk seeking tendency have a higher preference for aggressive media content than those who lack this tendency (boys: 40% versus 29%).

When asked, whether they would themselves want to be involved in an aggressive situation, the tendency was even stronger: 47% of those who prefer aggressive media content would also like to be involved themselves in a risky situation (as compared to an average of 19% with other media preferences, range: 15%-23%). In the recent analysis, this result comes closest to a direct effects measure.

There is a link between the preference for media violence and the need to be involved in aggression oneself.

The overall result can be interpreted as follows:

The tendency of sensation-seeking is possible genetically determined (with an extremely strong gender influence: 25% of the boys, but only 4% of the girls report risk-seeking).

The level and direction of this tendency, however, is moderated through the environment. When violence is presented as “thrilling” in the daily media-environment, this reinforces the “reward characteristics” of the respective behaviour. When children actually experience violence in their immediate environment, the hedonistic value of “heroism” makes place for its “survival”-value (see the action hero-results).

Thus, depending on the “real” environment, media-violence can serve different functions. Nevertheless, in both cases it confirms the “reward”-characteristics of aggressive behaviour.

### **Conclusions and recommendations**

At this stage, we can summarize the role of the media in the perception and application of aggression as follows:

Media violence is universal. It is primarily presented in a rewarding context.

Depending on the personality characteristics of the children, and depending on their everyday-life experiences, media violence satisfies different needs: It “compensates” own frustrations and deficits in problem-areas. It offers “thrills” for children in a less problematic environment. For boys, it creates a frame-of-reference for “attractive role-models”.

There are many cultural differences, and yet, the basic patterns of the media violence implications are similar around the world. Individual movies are not the problem. However, the extent and omnipresence of media violence contributes to the development of a global aggressive culture.

The “reward-characteristics” of aggression are more systematically promoted than non-aggressive ways of coping with one’s life. Therefore, the risk of media violence prevails.

The results demonstrate the omnipresence of TV in all areas of the world. Most children around the globe seem to spend most of their time with the medium. What they get is a high portion of violent content.

Combined with the real violence, which many children experience, the probability is high that aggressive orientations are promoted rather than peaceful ones. But also in lower-aggression areas, violent media content is presented in a rewarding context. Although children cope differently with this content in different cultures, the transcultural communality of the problem is the fact that aggression is interpreted as a good problem-solver for a variety of situations.

Children want a functioning social and family environment. As they often seem to lack these, they seek role models which offer compensation through power and aggression. This explains the universal success of movie characters like *Terminator*. Individual preferences for films like this one are not the problem. However, when violent content becomes a

common phenomenon up to the occurrence of all aggressive media environment the probability that children develop a new frame-of-reference, and that problematic predispositions are channelled into destructive attitudes and behaviour increases immensely.

#### *What are possible solutions?*

Probably more important than the media are the social and economic conditions in which children grow up. However, the media as constituents of cultures, beliefs, and orientations also deserve much attention. Centralized control and censorship are not efficient and do not meet the criteria of democratic societies. Three major strategies should be considered:

- Public debate and “common ground” talks between politicians, producers, and teachers.
- The development of professional codes-of-conduct and self-discipline for producers.
- Innovative forms of media education to create competent and critical media users.

Apart from media professionals non-governmental organizations in general and non-formal educational agents with a global perspective such as Scouting can play an important role in this respect.

With communication systems like the Internet, the media will be even more omnipresent and universal. As a consequence, the new digital environment demands similar attention as culture and education in the traditional world.



## UNESCO AND THE CULTURE OF PEACE

### UNESCO

*“There cannot be sustainable peace without sustainable development.  
There cannot be development without life-long education.  
There cannot be development without democracy, without a more equitable  
sharing of resources, without the elimination of  
disparities which separate the most advanced countries from  
the least developed ones”.*  
Federico Mayor,  
Director-General of UNESCO

*“The purpose of the Organization is to contribute to peace and security by  
promoting collaboration among the nations through education, science and  
culture in order to further universal respect for justice, for the rule of law and  
for human rights and fundamental freedoms which are affirmed for  
the peoples of the world, without distinction of race, sex,  
language or religion”.*  
Article I of the constitutive Act of UNESCO.

On the initiative of the Director-General of UNESCO, Federico Mayor, the “Culture of Peace” has become the main-spring of the Organization, increasingly promoting non-violence, tolerance and solidarity. It exerts an influence on people everywhere to engage in action inspired by these values. At the dawn of the new millennium, it is more active than ever in its efforts to make the “spirit of peace” a reality for people everywhere in their lives.

How can we raise awareness of the importance and urgency of the vital task at the end of this century of making the transition from a culture of war to a culture of peace? How can we find the ways and means to alter the present values, attitudes, beliefs and behaviour?

Too many wars have been caused by issues of cultural identity aimed at the destruction of the other, too many violent efforts of modernity have affected peoples’ notion of identity, too many covert harsh consequences are due to the globalisation of economic and cul-

tural exchanges leading to the disintegration of community values. Today, intolerance is giving rise to feelings of exaggerated nationalism, reviving ethnic and religious differences, and causing millions to be brutally displaced and dispossessed of their “right to have rights”.

In its quest for peace, UNESCO starts with the fact that violence remains, only now it has a new face. Even though traditional forms of conflict and war have subsided, the defence budgets of most of countries remain high, especially for the development high-technology “smart” weapons, whereas the budgets devoted to social development are constantly reduced. Within the past two decades, intra-national conflicts have increased, thereby exacerbating ethnic and religious differences.

Being faced with an unacceptable state of affairs, we must mobilise in favour of peace and non-violence, which must become a daily reality for all.

## **The struggle for peace: an oft repeated statement**

There are some important landmark dates in the struggle for peace and non-violence: 1899, the Hague Conference for Peace; 1919, the League of Nations; 1945, the creation of the United Nations Organizations and its Specialised Agency for education, science, culture and communication called: UNESCO.

Ever since its creation at the end of the Second World War, the Organisation has always acted in accordance with the principles found in the preamble of its constitutive Act: “Since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed.”

This constitutive Act was as visionary then as it is relevant today: it is founded on an accurate analysis of the processes whereby war as well as peace can be achieved, and refers to the democratic ideal: “That a peace based exclusively upon the political and economic arrangements of governments would not be a peace which could secure the unanimous, lasting and sincere support of the peoples of the world, and that the peace must therefore be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind.”

Even though UNESCO works in a variety of fields, its sole mission is that of constructing peace: “The purpose of the Organisation is to contribute to peace and security by promoting collaboration among the nations through education, science and culture in order to further universal respect for justice, for the rule of law and for the human rights and fundamental freedoms which are affirmed for the peoples of the world” (Article 1 of the constitutive Act).

However, it was in 1989, a few months before the fall of the Berlin Wall, during the International Congress on Peace in the Minds of Men in Yamassoukro (Côte d’Ivoire), that for the first time the notion of a “culture of peace” was expressed. Since then, this idea has become a world movement.

In February 1994, during the first International Forum on the Culture of Peace held in San Salvador (El Salvador), Federico Mayor launched international debate on the establishment of a right to peace, drawing on the Declaration of Vienna (1993), in which it is stated that human rights, democracy and development are interdependent and mutually reinforce each other.

In 1995, UNESCO’s Member States decided that the Organization should channel all its efforts and energy towards the culture of peace. Within the framework of the Mid-term Strategy (1996-2001), a transdisciplinary project called Towards a Culture of Peace was set up. In the context of that project, NGOs, associations, collectives, youths and adults, journalist networks, community radios, and religious leaders all around the world working in favour of peace, non-violence and tolerance are actively involved in fostering the dissemination of the culture of peace in the field.

Furthermore, on 20 November 1997, the United Nations General Assembly proclaimed the year 2000 the International Year for the Culture of Peace, under the overall co-ordination of UNESCO.

## **You said “culture of peace”?**

The culture of peace is intrinsically linked to non-violent conflict prevention and resolution. It is a culture based on tolerance, solidarity and sharing on a daily basis, a culture which respects every individual’s rights –the principle of pluralism which ensures and upholds the freedom of opinion– which strives to prevent conflict by tackling it at its source, including new non-military threats to peace and security such as exclusion, extreme poverty and environmental degradation. It seeks to solve problems through dialogue, negotiation and mediation, so that war and violence are no longer possible.

But how can the culture of peace become a concrete and lasting reality? In the interactive world, everything is a matter of awareness,

mobilization, education, prevention and information, at all levels of society and in all countries. The elaboration and establishment of a culture of peace require the whole-hearted participation of everyone. It is up to the citizens to organize themselves and bear their share of responsibility. Countries must co-operate, international organizations must co-ordinate their different actions and populations must fully participate to the full in the development of their societies.

### **Towards a world movement**

Tolerance, democracy and human rights –in other words the observance of those rights and respect for other people– these are the “sacred” values that UNESCO has promoted and upheld. The Organization intends now to reassert their valuable character, without losing sight of the historic specificity of each society.

In proclaiming the year 2000 the International Year for the Culture of Peace, and the period 2001-2010 the “International Decade for a Culture of Peace and Non-violence for the Children of the World”, the General Assembly of the United Nations has shown its full concurrence with this UNESCO priority. In the preparation of the International Year for the Culture of Peace, the Manifesto 2000 for a Culture of Peace and Non-violence was drafted by laureates of the Nobel Prize for Peace in conjunction with the United Nations and UNESCO, and launched on 4 March 1999 in Paris.

### **The Manifesto**

*The Manifesto 2000 for the Culture of Peace and Non-violence was drafted by a group of laureates of the Nobel Prize for Peace, which met in Paris for the 50<sup>th</sup> anniversary of the Universal Declaration of Human Rights.*

Norman Borlaug, Adolfo Perez Esquivel, Michail Gorbatchev, Mairead Maguire, Rigoberta Menchu Tum, Shimon Peres, Jose Ramos Horata, Joseph Rotblat, David Trimble,

Desmond Tutu, Elie Wiesel, Carlos F. Ximenes Belo, Nelson Mandela and the Dalai Lama were the first signatories of the Manifesto 2000.

The Manifesto aims at fostering individual awareness and commitment: it is not an appeal, nor is it a petition addressed to governments or higher authorities. It affirms that it is the responsibility of each human being to translate into the realities of everyday life the values, attitudes, and patterns of behaviour which inspire the culture of peace. Everybody can act in the spirit of the culture of peace in the context of one’s own family, workplace, neighbourhood, town, or region, by becoming a messenger of tolerance, solidarity and dialogue.

By signing the Manifesto, everyone pledges to respect all life; reject violence; share with others; listen to understand; preserve the planet; rediscover solidarity

UNESCO, as the United Nations coordinating body for the preparation of the International Year for the Culture of Peace, is responsible for distributing the Manifesto 2000 all over the world, and is launching an appeal to all organizations, associations and governments to co-operate.

The schools, universities, and associations which work in conjunction with UNESCO on a daily basis, as well as the other United Nations organisations, will be mobilized to distribute the Manifesto 2000; in addition, it is necessary to have the participation and support of political, intellectual and artistic personalities: mayors, members of parliament, journalists, musicians, film directors, scientists, representatives of religious or military organisations from all around the world.

The aim is to gather 100 million signatures before the General Assembly of the millennium in September of the year 2000.

The organizations collaborating in the dissemination of the Manifesto 2000 will also undertake to participate in the collection of signatures. A website devoted to the Manifesto 2000, including the registration of all its signatories, is already set up at: [www.unesco.org/manifesto2000](http://www.unesco.org/manifesto2000).

On 4 March 1999, 100 young people of different backgrounds and origins were symbolically designated “messengers of the culture of peace” by the Director-General; they are entrusted with spreading the message of the culture of peace.

The aim of this large-scale operation is to attract the greatest possible number of signatories by raising awareness and mobilising public opinion worldwide to launch and support new initiatives and to search for alternative solutions. The International Year for the Culture of Peace is an opportunity to raise awareness as well as to encourage the emergence of a universal movement for the promotion of peace, and to establish a system of information networks to connect individuals with the relevant organizations.

The culture of peace is a long-term initiative which has to take into account the historical, political, economic, social and cultural context of each human being. One must learn about it, develop it and translate it into practice on an everyday basis in one’s family, region or country. It is a never-ending process.

Peace is not a passive process: humanity must strive for it, promote it and manage it.

### **Peace in action: Main fields of action and partnerships**

For UNESCO peace is not merely the absence of war. The Organization therefore promotes efforts in its favour, while complementing and highlighting the values of what already exists; in order to pursue its aims, it organizes forums, seminars and conferences to mobilize further partners.

Since 1995, when the first International Forum on the Culture of Peace took place in El Salvador and gave encouragement and support to the fledgling democracies that had emerged from lengthy armed conflicts and encouraged the process of national reconciliation, many regional meetings held under the aegis of UNESCO have facilitated collective debate on the subject.

At the same time, new actors are being mobilised in favour of the culture of peace:

- members of parliament for the development of democracy;
- mayors, following the creation of the UNESCO Prize for Towns for Peace;
- “ombudsmen”, in the search for new methods to protect human rights at national level;
- the public sector media, to provide space for dialogue and debate;
- the armed forces and strategic institutes for ensuring the democratic security of populations.

### **“Think globally, act locally”**

Education in the broad sense of the term is the crucial component in the culture of peace, an education which makes each individual sensitive to others, and which imposes a sense of responsibility with regards to rights and liberties. A life-long basic education for all, both formal and informal, must be based on the four pillars of knowledge as stated in the report *Learning: the treasure within* (1996) by the International Commission on Education for the Twenty-first Century chaired by Jacques Delors: “learning to know”, “learning to do”, “learning to live together” and “learning to be”.

However, we must above all intensify the establishment of an integrated educational system on the issues of peace, human rights and democracy. To that end, UNESCO has launched various initiatives:

- the creation of chairs in more than 25 African countries, as well as in Europe, the Arab states and Latin America;
- historical research and the sharing of historical knowledge;
- the revision of history and geography school books;
- the production of diverse publications and manuals;
- the conception and distribution of teaching material through its network of 6000 Associated Schools in over 150 countries;

- the evaluation and strengthening of national education policies on human rights issues, enquiries on legislations, national policies and strategies for university education;
- training programmes for educators and professionals (teachers, journalists, public administrators, police forces and the military).

At the Second World Congress on Education International (held in Washington on 25<sup>th</sup> July 1998), Federico Mayor declared that “UNESCO is willing to establish new partnerships between governments and teachers’ organizations in order to develop democratic forms of behaviour in the class room all over the world: democracy must translate itself through equal opportunities in matters of education (...)”.

With regard to the rapid, continuous evolution of the world of education, which must be a world without walls or frontiers, we must continue to innovate school programmes, both in terms of content and pedagogical methods, as was emphasised during the International Forum For a Culture of Peace and Dialogue of Civilizations, against a Culture of War and Violence in (Chisinau, Moldova, 16-18 May 1998). Courses, seminars and conferences especially geared to problems of the culture of peace will have to be introduced in education curricula, from pre-school level to higher education, as well as in pedagogic institutes. In countries where there is conflict or only recently established peace, priority must be given to the elaboration of intensive training programmes using audio-visual technologies, especially for illiterate and marginalized groups.

Human rights and the struggle against discrimination are a driving force in the establishment of a just and sustainable peace. In line with the findings of the Conference of Vienna (1993), during which the universality and indivisibility of human rights was reaffirmed, UNESCO is working on the dissemination of information regarding international instruments for the protection of human rights, as well as of procedures (legal and other) which

enable their promotion. It particularly focuses on marginalized groups (such as women, handicapped children, displaced peoples, refugees, minorities, etc).

In the area of promotion of democracy, the DEMOS project was set up in accordance with the idea that the prevention of conflict is the best way to ensure the security and stability that are necessary to the development of democracy. This project was started in Latin America, and is being carried out in Africa and Europe.

Within its fields of competence, UNESCO raises public awareness of the flagrant violations of intellectuals’ and professionals’ human rights, and gathers information in collaboration with the concerned governments, inter-governmental organizations and the United Nations High Commission on Human Rights, as well as the relevant NGOs. In addition, it organizes forums on the nature of democracy, for democracy can only survive if it is supported by active and conscious citizenship. In order to promote the transition from formal democracy to active democracy at all levels, UNESCO encourages the exchange of information on a regional and sub-regional level. At university level, training is provided through the UNITWIN programme and the UNESCO Chairs on Democracy.

The struggle against intolerance is a continuous battle and, since discrimination and intolerance often go together, the Organization adopted a “Declaration of Principles on Tolerance” in 1995 (the United Nations Year for Tolerance), and created networks for the promotion of tolerance in various regions of the world.

Cultural pluralism is another driving force for international peace and solidarity. Peace does not in any way presuppose homogeneity. Indeed, it should be based on pluralism and sustainable development. In following this positive approach to cultural diversity, civil society (NGOs, economic circles, association networks and communities) must act in the knowledge that each country and each society must

devise its strategies to fit its specific characteristics. A new approach is necessary to deal with the impact of globalisation, which totally disregards economic as well as cultural pluralism, and manifests itself in a drastically different manner according to whether countries are rich or poor. This point was made by the Director-General of UNESCO, Federico Mayor, and the Secretary-General of the Secretariat of the Commonwealth, Chief Emeka Anayaoku, at the conference *Towards a Constructive Pluralism* conference held in Paris on 28 January 1999.

UNESCO has sought to contribute to preserving and enhancing the value of cultural diversity, as well as facilitating intercultural and interethnic dialogue by setting up regional and sub-regional projects. Three of those projects are completely in line with that aim:

- “The Slave Route” has encouraged the multidisciplinary study of the history of slavery;
- “Spiritual Convergence and Intercultural Dialogue”, in bringing together the projects “Roads of Faith” and “Al-Andalus Routes”, highlights the process of interaction between Judaism, Christianity and Islam, as well as between Europe, the Arab world and sub-Saharan Africa; and
- “The Iron Road” which covers the role and impact of iron in traditional and modern African societies.

Moreover, the dynamics of this dialogue between cultures and civilizations are shared by many national programmes for the culture of peace.

Reconciliation, intercultural understanding and the establishment of sustainable peace are

dependant upon the media. Standing at the forefront of United Nations support for the independent press and public media services, who defend the freedom of expression and free-flow of information, UNESCO assists all those who are opposed to a culture of war and who are the victims of persecution.

In May 1997, in Puebla (Mexico), the Organization gathered all the directors and chief-editors of the Latin American press, who issued a declaration in which they “reaffirmed their adherence to a society within which its members coexist in peace and denounce the culture of war in the name of the culture of peace”. Recalling that “the main means for the free flow of ideas is the independent press”, they also reaffirmed that “the realization of internal harmony at the centre of societies as well as the pacifist understanding between nations requires transparency of information and opinions”. Other gatherings of media representatives were held in 1998 in Kingston (Jamaica), Tbilisi (Georgia) and Moscow (Russia).

However, the free flow of ideas in the written and audio-visual press is undermined by market forces which, today, are more powerful than the laws of information, and lead to the concentration of the media throughout the world. Some of the media have a tendency to exploit violence rather than to promote mutual understanding. Thus, it is important to reinforce the capacity for communication, particularly in the developing countries and most of all in countries which have just emerged from situations of conflict

## MANIFESTO 2000

### FOR A CULTURE OF PEACE AND NON-VIOLENCE

The year 2000 must be a new beginning for us all. Together we can transform the culture of war and violence into a culture of peace and non-violence. This demands the participation of everyone. It gives young people and future generations values that can inspire them to shape a world of dignity and harmony, a world of justice, solidarity, liberty and prosperity. The culture of peace makes possible sustainable development, protection of the environment and the personal fulfilment of each human being.

Recognizing my share of responsibility for the future of humanity, especially for today's children and those of future generations, I pledge – in my daily life, in my family, my work, my community, my country and my region – to:

1. **respect the life** and dignity of every person without discrimination or prejudice;
2. **practise active non-violence**, rejecting violence in all its forms: physical, sexual, psychological, economical and social, in particular towards the most deprived and vulnerable such as children and adolescents;
3. **share my time and material resources** in a spirit of generosity to put an end to exclusion, injustice and political and economic oppression;
4. **defend freedom of expression and cultural diversity**, giving preference always to dialogue and listening rather than fanaticism, defamation and the rejection of others;
5. **promote consumer behaviour that is responsible** and development practices that respect all forms of life and preserve the balance of nature on the planet;
6. **contribute to the development of my community**, with the full participation of women and respect for democratic principles, in order to create together new forms of solidarity.

**As a personal contribution to the promotion of a culture of peace and non-violence. I committ myself to:**

-----

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Surnames\*\*: \_\_\_\_\_ Name: \_\_\_\_\_  
Birth date: \_\_\_\_\_ Sex: M - F  
Residence city: \_\_\_\_\_ Country: \_\_\_\_\_

**Spread and send this document signed to:**  
**INTERNATIONAL CULTURE OF PEACE YEAR**  
**United Nations education, science and culture organization (UNESCO)**  
7, place Fontenoy – F-75352 Paris 07 SP - FRANCIA  
FAX: +33 1 45 68 56 38 – e-mail: manifesto2000@unesco.org

\* You can also sign the Manifesto 2000 directly by Internet [www.unesco.org/manifesto2000](http://www.unesco.org/manifesto2000)

\*\* Your name as signer of the Manifesto 2000 will appear on the Internet page created for this operation: [www.unesco.org/manifesto2000](http://www.unesco.org/manifesto2000). All the Manifesto's signatures will be presented to the United Nations General Assembly during September of the year 2000.



2000 – INTERNATIONAL CULTURE OF PEACE YEAR



## EDUCATION THROUGH COMMUNICATIONS AND CULTURE

**Claudio Avendaño and Pilar Izquierdo\***

*The field of Communications and Education is characterised by the wide variety of practices, experiences and research studies it encompasses. Its wide action range includes, among others, the use of technology and the media in schoolwork, grass-root educational projects and campaigns, and the elaboration of classroom and distance education programmes.*

*Its field appears to be highly diversified, and evolve without either the support of a theoretical system or a well – defined scientific framework. The heterogeneity of its actors – NGOs, universities, private foundations, the State and others– also adds to its inherent diversity. The various papers presented at São Paulo’s International Communications and Education Conference (1998), also testify to the tremendous interest with which the international community views the new technologies and their dissemination.*

Two main working areas have been traditionally associated with the field of Communications and Education: media production and mediation for reception.

The first area, media production, is concerned with “Educational Communications”, and the elaboration of programmes defined by their creators as “educational messages”. The perception of these messages will be influenced by the receiver’s approach to and definition of education and communications.

Mediation or education for reception includes four basic working areas, each having a<sup>1</sup> different emphasis:

- “Communications about the media”, which focuses on educating through the media;
- “Communications with the media”, which emphasises expression through the media;
- “Communications from the media”, which involves working with media - generated contents;
- “Education for the media”, which seeks to develop critical analyses of these contents.

Prior to defining the orientation of the project featured in this article, which addresses primarily mediation for reception and to a lesser extent with production, we must draw the boundaries of the field of Communications and Education. We shall do this from a perspec-

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\* Claudio Avendaño R., Director; Pilar Izquierdo W., Academic Co-ordinator. A new academic proposal, sponsored by Chile’s Diego Portales University, presents the theoretical and practical experience research bases of the “Advanced Education Programme” being developed by this university in the field of Communications and Education. The proposal is inserted in the convergence and multiple empowerment of both disciplines within a broader and more complex framework: the cultural context.

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<sup>1</sup> Avendaño, C. Notes - Applied Communications course, imparted at Diego Portales University’s Faculty of Communication and Information Science.



tive broad enough to allow the formulation of the main challenges that must be confronted in the field of teacher training research and practice, media production and mediation for reception.

### Structural and sociocultural change

The rapid development of new communication and information technology, is currently giving rise to an important structural change, a phenomenon known in the 80s as the “information society”. This technological revolution capable of producing huge amounts of information at incomprehensible speeds, has brought about a substantial change to our lives: “The world economies have become more autonomous at a global scale introducing a new type of relationship between economies, State, and society inserted in a variable geometric system (...) Capitalism itself has undergone a radical restructuring characterised by greater flexibility of management: a decentralised and interconnected business sector (...) and a considerable increase in the power of capital as measured against that of labour ...”<sup>2</sup>

Modern communication systems –increasingly more digitalised and globalised– integrate the production and distribution of the words, sounds and images produced by a society newly incorporated to a network which, in turn, is becoming more and more diversified and fragmented.

Technological progress, however, brings along a new kind of inequity: “The integration of economies and communication systems has created new inequalities among countries, regions and social groups. Fernand Braudel’s “world-communication” concept, seeks to explain the logic behind this exclusion phenomenon,<sup>3</sup> and exposes the growing polarisation between centre and periphery.

The transformations that affect today’s society, are not only technologically – driven but the result of the demise of traditional paradigms which have fallen victims of an increasingly diversified world. The search for sense, a reflection of the identity crisis that marks our times, is off and running. Multiple options and interpretations as well as alternative lifestyles, have conspired to create an atmosphere of uncertainty and ambiguity. Television’s “zapping” feature or internet’s links, illustrate the anguish experienced by the individual who is compelled to choose one option over a thousand others, never being sure of having made the right choice.

Modern pluralism works to undermine this knowledge rooted in common sense. Thus, the world, society, life and individual identity are increasingly becoming the objects of critical examination. Multiple interpretations are indeed possible, while each defines its own strategies. No single interpretation or set of action plans can be thought of as being unique, true and perfectly fitting. Small wonder that individuals are often torn by the gnawing doubt that, just maybe, their lives should have followed a diametrically opposite path”.<sup>4</sup>

When confronting the phenomenon known as the “crisis of sense”, people tend to adopt two antagonistic views, either “fundamentalism” or “relativism”. Advocates of the former seek to put as much distance as possible between them and modern pluralism, a strategy that leads to the “ghettoisation” of their “home” groups. In terms of their relationship with the media, fundamentalists show a strong tendency to control and regulate scope and contents. In marked contrast, a relativist accepts diametrically different and totally contradictory norms with equal alacrity.

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<sup>2</sup> Castells, M. La era de la información, Vol. 1: La sociedad red, Alianza Editorial, Madrid, p. 27.

<sup>3</sup> Mattelart, A. La mundialización de la Comunicación, Paidós Comunicación, 1998, p. 100.

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<sup>4</sup> Berger, P. L. - Luckmann, T. Modernidad, Pluralismo y Crisis de Sentido, in: *Estudios Públicos* N° 63, 1996, Santiago, Chile, p. 33.

Fundamentalism is born as a quest for individual and collective security. These days, the search for identity constitutes a tool for constructing social meaning. This becomes painfully evident, at a point in history when social movements seem to have all but disappeared and the institutions that traditionally safeguarded the established order have increasingly come under questioning. Amidst these structural changes characterised by technological progress, altered patterns of coexistence, pluralism and the identity crisis, intermediate institutions –school and family– emerge as the most eloquent pathways to the construction of sense.

“The only way individuals will not feel as perfect strangers in the modern world, will be through the guarantee offered by these intermediate institutions, in the sense that their subjective patterns of action and experience do contribute to the social negotiation and objectivisation of sense. Then, and only then, we will be in a position to prevent the identity of the individual and the intersubjective coherence of society from being threatened, perhaps even destroyed, by a crisis – ridden modernity.”<sup>5</sup>

### The centrality of communications

Communications today occupy a central position in all our lives. New formats and media, now digitalised, are becoming available to a larger and more fragmented sector of the world population.

However, the centrality of communications is not restricted to the media, for it also considers the value of communications in

- the economic realm, where it represents an important sub-sector;
- the public sector, as a vector of social policies;

- the private sector, which increasingly demands corporative communication strategies as a device for accessing the system and remaining in it. One could almost claim that “communications is the system”; lastly,
- everyday living, where the media and the new technologies are taking ever larger portions of the individuals’ leisure time, and encroaching on their life-styles and socialising activities –particularly their family life– with unprecedented aggressiveness. Hence, television watching has become the second most popular activity –second only to work– and the main activity in the home.
- For its part, the communications industry has undergone important transformations in terms of convergence and concentration of property. What this means is that power groups now rule the communications industry, and that new strategic alliances are being materialised between the producers and distributors of cultural goods, and between movie, television, and cable T.V. industries, and satellite and telecommunications chains.

### The media-oriented or digital generation

Today’s “media-oriented” generation –increasingly known as “digitalised”– poses new challenges to education.

Television, video or cable T.V. watching is, by far, the main home activity of Chilean boys and girls, although –curiously– is not often their first choice. Various studies have concluded that children watch television as a surrogate for other activities they would rather –but cannot– do, like playing with friends or practising sports.

The high consumption of media-generated and technological products, appears to be associated with prolonged periods of leisure time and a more sedentary life-style, the result of streets being perceived as unsafe, an increased media supply, and the massive spread and increasing allure of cable T.V., videos, CD Roms, computers, Internet, and so forth.

<sup>5</sup> Berger, P. L. - Luckmann, T. Modernidad, Pluralismo y Crisis de Sentido, in: *Estudios Públicos* N° 63, 1996, Santiago, Chile, pp. 57-58.

According to a joint study conducted in 1997 by Chile's National Television Council and Catholic University<sup>6</sup>, children spend an average of 134 minutes –more than 2 hours– in front of a television set, an activity that by the time the student begins secondary education has peaked to practically 3 hours a day. In terms of “addiction” to television, the school population exhibits a trend largely determined by its social strata: the average for public schools is 143 minutes, followed by 129 and 119 minutes a day, for private-subsidised and autonomous private schools, respectively.

These figures reflect the diminished alternatives for leisure available to the lower income sectors.

Perhaps another conditioning factor is the presence –or absence– of adults or other children in the home, a condition that would normally cut down on the time devoted to television watching. The quality and quantity of programmes viewed, will also be directly related to the type of family interrelationship achieved in a particular home.

Furthermore, the television genres preferred by children and young people are cartoons, soap - operas, and movies, in that order. Studies reveal that, as a rule, the news are watched almost perfunctorily, as part of the family routine carried out nightly.

It is interesting to note that among basic school children, television watching –despite its high popularity– does not represent their “preferred” activity, at least on week-days. In fact, they would much rather “go out and play” (45%) than watch television or videos (18%). For their part, secondary school students have their own preferences: 35 per cent point to watching television or videos as their first choice, while 17 per cent claims to be more inclined towards listening to music.

The development of new technology has caused communications to become more fragmented, individualised, and customised. Internet, the communications super-highway, is currently linked to 43 million servers across the world. In Chile, and despite important inroads made by the communications industry, coverage remains low: nation wide, it has been estimated at 300 thousand users, with some 10 thousand representing teaching institutions sponsored by private business concerns.<sup>7</sup>

The younger generations feel increasingly more at ease in an interactive and media-generated space where sound and image are relevant, and aesthetics richer and more complex. This implies the development of new forms of perception which are both dynamic and overarching, fragmentary and dispersed, while it simultaneously poses new challenges to conventional education schemes.

The growing influence of the media on the cultural dimension of children and youths, has given rise to new models which –not surprisingly– are the same promoted by the industry (Huertas, 1999)<sup>8</sup>. Furthermore, the images and trends projected through television, have become part of the child's everyday living and of his social and leisure activities. This being the case, parents should be rightly concerned about how to educate for and with the media.

### **Communications in the present context**

Today's cultural climate, marked by diverging communicational processes, demands clear communication guidelines to orient our communicational and educational practices.

How do we view communications? Like an object which is beamed from a transmitter to a receiver with perfect fidelity, or like a process involving sense negotiation and construction?

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<sup>6</sup> Consejo Nacional de Televisión, Escuela de Psicología Pontificia Universidad Católica. La televisión y los niños en Chile: percepciones desde la audiencia infantil, 1999.

<sup>7</sup> Seminar - Reengineering Communications. School of Journalism, Universidad de los Andes, May, 1999, Santiago.

<sup>8</sup> Huertas, M. Seminar - Programación Infantil de Calidad. UNICEF, 1999.

How do we view the relationship that must exist between communications and the public at large? Should reception be regarded as just another assembly line product, or as a reception that relies on mediation for its reinterpretation?

In our opinion, the communication process represents a symbolic act of constructing sense and meaning, situated within a dynamic cultural context which triggers interpretative and mediated interaction processes, supported by numerous articulating entities, among them –and significantly– the mass media and the new technologies.

“Visualising communications from the cultural perspective, and no longer from under the shadow of the disciplines or the media means abandoning the simplistic view that reduces the communication issue to a merely technological problem”.<sup>9</sup>

It seems to us that from a sociocultural dimension communications, rather than a mechanistic circulation of information, represents a dynamic process based on the creation of meaningful concepts. However, from the discipline –oriented perspective that predominates today, this constructivist view of communications does not kindle much consensus.

In terms of communicational approaches, three views are currently in vogue:

*The effects approach:*

From this perspective, the viewer, a passive defenceless and isolated individual, incapable of handling the manipulative power of the media, can become the target of their various effects. Inserted in a structuralistic perspective, it attempts to explain microsocial phenomena in the light of processes of a more global nature.

While this view can be traced to the behaviourism popular during the first half of the 20<sup>th</sup> century, it is still prevalent today and

not only at the informal conversational level, but also as part of some theoretical formulations.

*The neoliberal approach to “active reception”:*

The neoliberal approach represents an offshoot of the active reception theories popularised in the 70s. While under this perspective the interlocutor of the communicational process is viewed as an individual immersed in different cultural mediations and, therefore, vested with dynamism and capable of reinterpreting the media contents, its neoliberal nature is expressed through the assumption that the consumer is an educated individual and, hence, should be able to reinterpret the media messages without resorting to mediation.

*The interpretative approach:*

Here, communication is seen as a “meaning-construction process” inserted in a broader context represented by the viewer’s culture. This is the perspective we have chosen to adopt for our action – research project on Communications and Education.

This approach traces its roots to the hermeneutics tradition. Our interpretative view however, falls more closely in line with the notion of praxis, that is, educating for a critical mediation of the media - conveyed messages.

The forerunners of this approach were A. Schultz, a phenomenologic sociologist, and P. Berger and T. Luckmann,<sup>10</sup> the first constructivist scholars of the sociology of knowledge: “reality is built through a social mechanism and the sociology of knowledge must analyse the processes which brings it about”.<sup>11</sup> These authors view reality as a social construct sensitive to analysis in the light of meaning-construction processes.

<sup>9</sup> Martín - Barbero, J., De los Medios a las Mediaciones. Ediciones G. Gili, Santiago, 1987, p. 227.

<sup>10</sup> Luckmann, T. The Social Construction of Reality, 1996

<sup>11</sup> Berger and Luckmann, 1996, p. 13.

Reality, as an inter-subjective construction (Schultz, 1973), is importantly relevant to efforts towards educating through communications and culture. The communication processes are characterised by a complex network of mediations bound by a specific cultural context.

As opposed to functional sociology, which perceives social reality as external to the subject, Schultz views “social action” from the perspective of inter-subjectivity. What this means is that society makes use of knowledge which in time has become legitimised and objectified, and is eventually adopted as pre-theoretical and shared “common sense” knowledge. This, in turn, delimits those structures or schemes which govern how we act or understand the world, and are susceptible to being rebuilt, broadened and made complex over and over again.

This analysis can help understand reception as culturally –mediated phenomenon which is, in turn, the subject of successive constructions.

Along these lines, the major theoretical contributions come from cultural studies, particularly those conducted by Stuart Hall, Richard Hoogart, David Morley and James Curran.

“... although the audiences may well be selective and active, this does not necessarily imply that they are not “under control” (Morley 1992b). In general, the responses given by the audiences are not entirely random or voluntary (...) the audiences’ reactions are triggered by subliminal backgrounds, their own experiences and views, and by the larger meanings adopted by that particular society”.<sup>12</sup>

According to these cultural studies, micro processes of media reception occur at the level of subcultures –or “interpretative communities” as some authors define them. Through this analytical methodology, the communication phe-

nomenon can be qualified and made more complex from a broader cultural perspective.

### **Education within this context**

The education-communicational process needs to be defined in the context of an information society, where the crisis of sense and a plethora of varied symbolic proposals, are its salient features.

Latin America is in the throes of profound reforms of their educational systems. In Chile, the reform process unfolds in the wake of a return to a democratic form of government, and in an earnest attempt to respond to the new challenges. Within the world of education, this transformation process has shaken the very foundations of the teaching profession and become a new and exciting proposition for the country’s universities.

Educational reorientation is not only concerned with knowledge, but also with knowing how to do, think, judge and value.

The modern sociocultural context demands new attributes such as:

- greater autonomy;
- individual and social self-assertiveness; and
- better understanding of the complexity and diversity of impinging phenomena, as well as the need to reach agreements with others.

Hence, the importance of focusing on developing skills and competencies that allow individuals to communicate with one another, engage in research, think critically, solve problems and work in teams. The new proposal has the twofold purpose of enriching the content and raising the standards of these objectives so that they may acquire relevance, and become useful tools in the lives of individuals, in terms of responding to their needs to better understand, engage in practical endeavours, and develop the ability to discern.

When wondering what direction is modern education taking, Education through Communications and Culture emerges as a coessential factor in the production of mechanisms that favour dialogue in a teaching-learning process

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<sup>12</sup> Curran, J. Repensar la Comunicación de Masa. In: Curran, Morley and Wakerdine (De). Estudios Culturales y Comunicación. Ediciones Paidós, Barcelona, 1998, p. 240.

where children and/or young people are assured a legitimate opportunity to build sense into their lives.

Our concept of education, draws from J. Bruner's constructivist and psychocultural tradition. In Bruner's opinion, education represents a meaning-construction process that seeks the integral development of the child as a cultural being. Thus, his actions and thought processes will be shaped by the structures generated within his cultural context; this being the case, any attempt at mobilising through learning must begin from within his own reinterpretation context –if it is to facilitate the development of skills– which will provide the elements for active participation in the construction of his environment, and his creative adaptation to it. In the words of Nelson Goodman, “reality is made, not found, (therefore) education must be visualised as a means for teaching children how to handle meaning-construction tools and how to construct reality”.<sup>13</sup>

In a context where communications and the “network society” occupy a central space, there is as much need to promote the development of identity as there is to encourage an attitude of openness to diversity. Today's child and/or youth must have the capability to adapt to change and participate in constructing the new social order. To this end, he needs to develop his social interaction skills, and his abilities to communicate and work in teams on the basis of respect, flexibility and tolerance, so that he may successfully solve problems, discern, and reason with greater autonomy.

### The silence of reception mediators

Considering the inescapable evidence that shows the narrow bond –and growing narrower– between children/youths and the media and the new technologies, the shroud of

silence that seems to have descended on the media, and/or the regulatory control that has been imposed on this interrelationship, both at the family and school levels, is nothing short of amazing.

A study conducted by the National Television Council and Diego Portales University<sup>14</sup> reveals that while teachers do have a closer relationship with the mass media, usage is still somewhat restricted: only 84 per cent of the Educational Enhancement Programmes (PME) developed within the framework of the 1996 Reform, rely on the media or communications technology. These, are primarily used in production ventures, while the mediation of reception and reflective content appropriation currently furnished by the media are extremely lean.

The study highlights four types of mediation: the “encyclopaedic” type, which uses television to develop programme contents with a didactic slant, and is not particularly interested in “educating for the media” or educating for living. A second type may be called “apocalyptic”, since it rejects television regarding it as much too vulgar to have a place in the educational process. A third one, which includes television viewing but decides what is to be used, without regard to the children's field of experience, can best be thought of as the “sifting” type. The fourth and last type, the one we have selected for our project, operates as a teacher “facilitator”, concerns itself with promoting reflection and creative expression among children, and does take into consideration their field of experiences.

At the family level, what are the classical forms of parental mediation?

Avendaño,<sup>15</sup> describes the most frequent types of television mediation encountered in

<sup>13</sup> Goodman, N. Ways of Worldmaking. In: Bruner, Jerome. La educación, puerta de la Cultura. Editorial Visor, 1998, p. 38.

<sup>14</sup> Souza, D., Avendaño, C., Rojas, V. Los Profesores y los Medios de Comunicación. CNT-UDP, 1996-1998 (unpublished).

<sup>15</sup> Avendaño, C. Mediación parental y Apropiación educativa de la televisión. Fondecyt - Diego Portales University, 1997.

Chilean society. The “normative” mediation, which imposes time slots for television viewing and censors programme contents, or cancels television watching privileges as a punishment for low school grades, is the most evident and commonplace among Chilean parents. Another frequently encountered mediation, has been dubbed “laissez-faire”, for here parents provide no guidance whatsoever on the subject.

The least frequent mediation modality is the “proactive” kind, through which parents provide orientation to their children on the basis of discussions, viewpoints are exchanged and viewing patterns agreed upon. This orientation is, in our opinion, the best possible alternative.

### **Mediation through communications and culture**

Our schooling project in the area of Communications and Education is inserted in a much broader context: that of Communications and Culture.

We have chosen Mario Kaplún’s denomination, “Education through Communications”, in the sense of an education that allows communication, serves as a link, and is based on dialogue. We feel this concept needs to be enlarged to that of Education through Communications and Culture, in order to view the meaning-construction process in all its complexity, that is, subjected to multiple mediations within a context of significant – cultural structures.

Culture may be defined as “the social production and reproduction of sense, meaning and conscience. The sense sphere, unifies the production sphere (economy) and the social relations sphere (politics)”.<sup>16</sup>

From this perspective, culture is neither static nor something imposed, but, as stated by Pierre Bourdieu, it represents a symbolic dimension with a twofold meaning: on the one hand it is

objective (a structure that exists independently of people) and, on the other, it is subjective (it has a structuring nature, since it is incorporated and institutionalised by people who are continually updating it through practice).

In the words of J. Bruner: “The situational nature of the meanings ensures their negotiability and, eventually, their communicability”.<sup>17</sup> We believe that communicational processes do not occur as isolated events but as the result of being situated in different social contexts which have a bearing –as confirmed by the cultural study tradition, particularly those conducted by Stuart Hall and David Morley– in the manner individuals construct sense.

As mentioned earlier, “Educating through communications and culture” means generating mechanisms where dialogue plays a stronger part in the teaching-learning process, where children and young people can find their niche in the construction of meaning and sense, and thus promote the shaping of a more communicative, active and critical citizenry, which may participate in the creation of its own cultural identity.

This implies broadening the concept of an elitist culture and legitimising the cultural crossovers between children, the media culture, the masses, the schools, etc. Working with the media means adopting a perspectivistic stance (Bruner, 1997) –that is, one open to the different opinions and life styles– that may promote the negotiation of sense starting from these contents.

Parents and educators must become mediators (Orozco) capable of constructing bridges across the various productions of sense generated by the individuals’ daily routine, the media, the school and others. A mediator is responsible for prompting the individual to reflect upon the contents of the media-messages and be aware of their hybrid nature, as constructs spawned by journalistic, communica-

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<sup>16</sup> Hartley, J. *Conceptos claves en comunicación y estudios culturales*. Amorrortu editores, 1995, p. 87.

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<sup>17</sup> Bruner, J. *La educación, puerta de la cultura*. Editorial Visor, 1997, p. 21.

tion, economic and ideological productions; and, for helping children to negotiate sense with these proposals so that, finally, these messages may be reformulated and recreated, and become expressions of their own reconstruction activity.

From this perspective, by incorporating the media and the new technologies into our project, we are effectively ascribing them value as vehicles of cultural expression and production, and countering the instrumentalist - technological view that regards them as simple transmitters.

### **Experiences in the field of communications / education**

Out of the numerous experiences that have been carried out in the field of Communications and Education, we have rescued the essential elements of some matrices which we believe should form part of our proposal.

- Expression matrix: We value the pedagogical experience of Celestin Freinet and the work undertaken by the Uruguayan academician Mario Kaplún in the field of popular education. This current, views the media as communicational pathways capable of generating dialogue and expression and, through them, bring about learning.
- Literacy - through - the - media matrix: Widely adopted by the Anglo-saxon countries, its purpose is to develop skills and teach how to use media - generated products.
- Critical matrix: Found in Chile and Latin America. Assembles critical reflection lines developed by numerous Latin American groups primarily during the 70s and 80s.

In keeping with the cultural perspective our Education and Communications project is inserted in, the methodological proposal we have adopted in our Educational and Dialogical Appropriation of the Communication Media and the New Technologies, unfolds along five articulating axes:

- The elaboration of activities or projects in the context of current educational needs, with clearly-defined purposes.
- The need to design communications and activities customised to the interlocutor of the message, in this case, the learner. In order to make efficient use of his strategies possible, the teacher must know the learner's likes, interests and be familiar with the significant uses of the media.
- The creation of contact and gratifying experiences with the media, based on which the teacher can develop relevant and significant fun and/or intellect-challenging games that prod the student in the direction of the desired educational objectives.
- Instruction initiatives covering basic skills involving the use and appropriation of the tools and language characteristic of the communications media and the new technologies.
- Reflection on Media-Cultural Contents, essential to “negotiating sense” and the subsequent meaning-construction process. We are convinced that this reflection should surmount the purely critical dimension –too often guilty of stereotyping– and adopt a “perspectivistic” stance, an approach that demands a teacher who is open to diversity and interaction. In this respect, it is important to become familiar with the dynamics of industrial and journalistic productions.
- Lastly, in our proposal, expression has been ascribed a central position. In the externalisation process undergone by the individual, sensible involvement at the personal and/or collective level is encouraged. Expression and reflection, to the extent that they allow the construction of meaning, and the re-organisation of thinking and communication with one another, represent pathways to appropriation and learning. The tallest challenge confronted by expression implies taking the media-messages and, through the reappropriation of their narrative structures, stripping them of all meaning only to reconstruct them again later. Thus, media-generated resources allow the transmitter to create content which,



in turn, well be given a new meaning by the receiver, following the interactive process that typifies dialogical communications.

### **Our experience: University degrees in Communications and Education**

Since 1998, Diego Portales University has sponsored an Advanced Education Programme for teachers and public information operators, leading to a degree in Communications and Education. The project, developed entirely on an empirical basis, represents an experience rich in theoretical reflection.

The underlying intention is to galvanise change. This means that all efforts have been geared towards encouraging teachers to renew the communication strategies used in the teaching-learning process, assume the reality of the media, and perform as mediators of communication and Culture.

The project was greeted by an enthusiastic demand which later metamorphosed into a highly motivated participation by teachers and public information operators pursuing a career in this area.

The main features that account for this popularity are the following:

- the multimedia nature of the project which is not restricted to one medium – as traditionally has been the case in Chile – but is predicated on the participation of the press, radio, and television, and harnesses the Internet and computer science technology;
- an approach that advocates reform in the educational system;
- the experience behind years of teacher upgrading efforts in this field;
- the quality of the methodological proposal underpinning the work with the media, characterised by its integral nature within the Communications and Education context.

In terms of the academic dimension, field work has contributed importantly to reflection and to flexible reformulation. In tests and among focal groups, students have shown to be highly motivated and purposefully oriented

towards a new educational perspective which, more often than not, has led to a reformulation of their roles as teachers.

The work performed by a Communications and Education diploma-holder, encompasses four basic areas:

- Communications and Education.
- Personal Development and Openness to change.
- Workshops on Educational and Dialogical Appropriation of the Media and the New Technologies.
- Planning of impact-centred Projects.

The field of Communications and Education, deals with contents associated with: media-generated and cultural contexts; the relationship between children and the media; the Communications Perspective as an interpretative approach; the Basic Matrices articulating the field of Communications and Education with the more relevant work experiences in this area; the Multiple-media Reception and the Multiple Mediation processes; and, exposition of the diploma-holder methodological proposal.

The personal development area represents a hands – on aspect of the work intended to provide greater communicative and creative skills. In this respect, what is sought is a better understanding of the self, more efficient teamwork and a mastery of parallel thinking. Making the individual more aware of the personal blocks that may be playing against an open attitude towards change, creativity and communications, is also dealt with here.

The area of Educational and Dialogical Appropriation of the Media and the New Technologies, consists of workshops on educational appropriation of the media based on the concrete application of the diploma-holder's methodological proposal.

Newspaper and radio workshops, have been designed to acquaint the student with the language of the media and some of their narrative and technical resources. Spaces for reflection around specific contents are created, while stimulating expression and creative narration via such resources. Computer workshops are

intended to introduce the student to non-linear narration techniques, and develop criteria for the selection of software suitable for educational appropriation. In terms of Internet workshops, the idea is to familiarise the student with some of this medium's basic resources and evaluate its educational potential.

In particular, the television appropriation workshop is specially intent on eliminating whatever blocks may be affecting the students' reasoning ability –a by-product of his training– in order to tear down prejudice –nurturing structures, and attain the educational appropriation of any media-message content. Teachers are expected to value and enjoy audio-visual narration, and use the resources made available by the mass media as links to their own schools' curricular contents.

The methodology has been designed so that teachers acquire a broad cultural perspective, that values culture –not only highbrow culture but also the culture of the masses– as a stimulating vehicle for developing reasoning, affectivity, discernment and creativity. For example, a “soap opera” can become fertile grounds and inspire work on sexuality. Or, an analogy between Goku the Dragon Ball and Bernardo O'Higgins (a hero of the Chilean War of Independence) could lend itself to an analysis of the figure of the hero, both from a fictitious and a real dimension.

The idea is to enrich the teachers' imagery encouraging them to use the rich cache of audiovisual resources in their everyday practices: integrate emotions into their discourse, discover the power of conflict and problem-raising, and promote the use of images, the classical oral and audiovisual narratives, etc.

Teachers opting for a diploma, must create their own projects, to facilitate their educational appropriation of the media or the literacy contents.

The fourth area in the educational trajectory of the diploma-holder, is the planning of impact-centred projects. This implies design-

ing projects based on a diagnosis involving an objective audience. In fact, enthusiasm ran so high that teachers created their own proposals and adapted them to funds granted as prize in competitions. This also generated new sources of labour for participating teachers.

### **Experience and reflection**

A Communications and Education diploma-holder, represents the confluence of two essential elements: Experience and Academic Reflection.

The following work has contributed to this experience:

- Universidad Diego Portales “Press and Education” programme, a pioneer project which after a little over 10 years has reached some 140 thousand Chilean children across the country.
- Communications and Education studies at the School of Journalism and the Masters programme on Social Communications offered by the university's Communications and Information faculty.
- Development of approximately 15 dissertations on relevant topics, such as television and the family, production of written media in educational units, and development of expression, among others.
- The experience of the diploma-holder, in addition to representing an educational project which is built and rebuilt on a daily basis, also represents a research undertaking that is continually evaluated so it may be systematised and thus contribute to the field of Communication and Education.

For its part, reflection has been applied to:

- The construction and implementation process that leads to a diploma on Communications and Education: in the area of research, discussion and group work around the theoretical definition of our approach to the field, the methodological appropriation of this look, and its application to the project.

- Field research developed at the university on topics such as: didactic use of cable television; family and television; children and newspapers; use of the media involving children; and, use of the media involving teachers.
- Discussion and evaluation of theoretical proposal such as those authored by Mario Kaplún, Guillermo Orozco, and José Luis Orihuela, among others.

The materialisation of alliances with other agencies, such as those recently concluded with UNESCO, UNICEF and the Freedom Forum, will help to project the field of Communications and Education beyond national frontiers, and develop further projects that will enrich and widen the scope of action of this pioneer project of education.

“...One of the salient characteristics of the new century will be the narrow relationship between scientific criteria and political decisions...”

“...In order to materialise this symbiosis between science and the powers that be, three conditions must be present: democratic participation, medium and long - term strategies, and the capacity to share knowledge and resources, as well as responsibilities and hope...”

“... In the new century, scientific endeavours will be more dynamic and, essentially, global in scope. The immediateness of communications, the opportunity to electronically access libraries and advanced research centres in every corner of the planet, and the social impact of scientific and technological progress have dramatically affected the acquisition, transmission and implementation of knowledge. However, the very swiftness of technological progress, amidst the asymmetries and unbalances that afflict our modern world, is threatening to obliterate humanity’s moral toeholds and destroy the future of our civilisation...”

“... the future is ours to write, and as scientists we can not and should not remain silent. We shall not be remiss in our duty to write - joining hands with every other sector - a future that must be constructed differently. Might and imposition have failed stridently. And, at what a cost. The cost of millions upon millions of human lives. Of untold suffering. Indescribable perversities. We have discovered antibiotics, ways of communicating, and developed state of the art surgical techniques ... but have failed to raise dialogue and tolerance above the power of the sword; failed to bring knowledge and wisdom into perfect harmony.

“On the eve of the 21<sup>st</sup> century, the sciences (natural, exact, social and human) gathered in Budapest in total harmony, proclaim to the world from the heart of Europe, their contribution to the transition from the power of force to the power of reason, from old war - like cultures to a culture who offers their descendants a sparkle of love for this brave new world “

Federico Mayor

UNESCO Director General

Opening address delivered at the World Conference on science for the 21<sup>st</sup> century. Budapest, June 26, 1999.

## THE NEW ROLE OF THE TEACHER: WHAT TEACHER EDUCATION MODEL FOR WHAT EDUCATION MODEL?

Rosa María Torres\*

*When the question is raised as to what is to be done about the teacher issue, and more specifically, about teacher education, no single answer or universal set of recommendations can be reasonably expected. There are a number of reasons for this:*

- *the enormous diversity of contexts and situations among regions, countries and within each particular country, which makes generalisation and the traditional classification between “developed” and “developing” countries, impractical or, at any rate, irrelevant;*
- *the complexity and critical stage reached by the “teacher issue” across the world, wherein teacher education and training is but an aspect;*
- *the heterogeneity of the individuals generically grouped as “teachers”, as well as the various meanings “teacher education” and “teacher training” is given – or may be given – in each case;<sup>1</sup>*
- *the dearth, and inconsistency, of available knowledge concerning reform in the fields of education and learning –particularly in terms of teacher learning– and of ground-breaking experiences in this realm;*
- *the uncertainty and complexity surrounding the present –characterised as a “period of transition between two eras”– and the future, even the immediate future; and*
- *in line with the above, the blurry, varied and diverging opinions of that which is vaguely perceived as the “new” education, the “education for the 21<sup>st</sup> century”. All this questions the prevailing tendency –both at the national and international levels– to design educational policy and make relevant recommendations that are suitable to all the “developing world” or an entire country, basically moving from “hypothesis to prescription” (Ratinoff, 1994: 30).*

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\* Rosa María Torres (Ecuador). IPE–UNESCO Buenos Aires, Management of Educational Innovation. The views expressed in this article are the author’s and are not necessarily shared by IPE.  
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<sup>1</sup> Expressions relating to teacher education and training are used differently in the various Spanish-speaking countries. Thus, for example, in Mexico (De Ibarrola and Silva, 1995) those who lack any professional studies are *trained*; teachers who work but need to acquire official accreditation are *up-graded*; in-service teachers are *up-dated* by the central government in order to keep in step with the latest curricular innovations; and, post graduate students undertake *professional advancement* courses.

With the term ‘teachers’ we refer here to both classroom teachers, principals and supervisors, and assume the need to articulate this ‘school team’ under a common umbrella of “professional development” and “school management”, in order to ensure the integration of administrative, curricular and pedagogical dimensions.

Also, we address teacher education/training within the framework of lifelong learning, that is, conscious that teaching knowledge and skills are the result not only of initial or in-service training but also of the insight accumulated during a lifetime, inside and outside the school system and throughout the teaching practice.

In this article, we refer specifically to teachers (and teacher education/training) in developing countries, while acknowledging –as previously stated– the profound differences among and within these countries, between educational levels and disciplines involved in teaching, and the differences linked to age, gender, professional development, and so forth. In the end, the concepts of “teachers” –as well as “students”–, and “teacher education/training”, are abstractions that need to be defined in each specific context.

As to the whats and hows of teacher education, these will depend on the role assigned to education and to the school system in each specific case. The education model, in turn, is determined by the type of society which is being sought. In a globalised world governed by a “unique thought” which in the educational realm is expressed in the rhetoric of human capital,<sup>2</sup> the question “education, for what?” is still relevant, open to definition and debate, both from the perspectives of politics and the economy, as well as from those of education and culture.

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<sup>2</sup> We are using the term “rhetoric” as does L. Ratinoff: as macrovisions of education through which “every epoch has justified its need to devote time and resources to education from perspectives that reflect the moment’s major concerns and goals” (Ratinoff, 1994:22). Rhetoric should have three main functions:

## The “new teacher role” and the new teacher education model

The need to define a new role for teachers occupies much attention in today’s educational rhetoric, particularly when confronted with the 21<sup>st</sup> century and the “new education”.

The ideal profile of this “new teacher” and the pre-programmed role he/she must perform, have yielded a long list of “desirable skills” that have come to amalgamate postulates inspired in human capital rhetoric and efficiency –oriented approaches, with critical pedagogy and progressivist education movements – today all part of the global education reform rhetoric.

Thus, the “ideal” or “efficient” teacher is now defined as a multipurpose individual, a competent professional, an agent for change, a reflexive practitioner, a researcher, a critical and innovative intellectual (Barth, 1990; Delors *et al.*, 1996; Hargreaves, 1994; Gimeno, 1992; Jung, 1994; OECD, 1991; Schon, 1992; UNESCO, 1990, 1998) who:

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*co-ordinate*, thus helping to unify different interests through shared values and commitments; *mobilise*, facilitating the incorporation of new groups through special ends and justifications; and, *legitimise*, by projecting an image of correctness which is acceptable to the community at large. The author has identified four types of educational rhetoric during the 20<sup>th</sup> century: the educational nationalism rhetoric, the pluralist rhetoric, the merit-based rhetoric, and the human capital rhetoric. These would represent, on the one hand, a gradual shifting of political projects to the right of the spectrum and, on the other, a progressive internalisation of ideas and interests. However, the author warns us that “the successive educational macrovisions of the 20<sup>th</sup> century were selective in their assessment of variables, favouring those that supported the pursued objectives at the expense of information or criteria that undermined the validity of their assumptions”, a situation that argues against the use of scientific standards in their evaluation; their analytical and factual flaws are evident and the gauzy consistency of their proposals and assumptions is markedly simplistic. The main virtue ascribable to these public arguments, is their power to agglutinate wills and provide markers that contribute to the organisation of the various factors at play. Besides, it would be virtually impossible to demonstrate that the changes they propose are, in fact, the best possible solutions” (Ratinoff, 1994:23).

- masters knowledge –contents and pedagogical strategies– in his/her area of teaching;
- elicits and facilitates learning, assuming his/her mission not in terms of teaching but in terms of making sure that students learn;
- interprets and applies a curriculum while having the capability of developing and adapting it to meet local needs;
- uses his/her professional judgement to select the most suitable contents and pedagogical strategies for every group and context;
- understands local reality and culture and develops a bilingual and intercultural education wherever it is needed;
- develops an active pedagogy based on dialogue, the theory-practice interrelationship, interdisciplinary approaches, diversity and team work;
- along with his/her colleagues, participates in the elaboration of the school's educational project contributing, in so doing, to create an institutional image and a climate of democratic co-operation;
- works and learns as a team member, going from an individualistic training and learning scheme, to one which is team-based and school-based;
- adopts research as a permanent learning attitude and tool, so that he/she can autonomously produce the information a professional educator is required to have;
- participates actively in the implementation and development of innovative, sustainable, replicable ideas and projects, suitable for institutionalising;
- reflects critically on his/her role and pedagogical practice, and systematises and shares it in inter-learning spaces;
- makes an ethical commitment to abide by what he/she preaches, endeavouring to become exemplary in every aspect;
- detects problems (social, emotional, health or learning related) among his/her students in a timely fashion, and either refers them to a suitable source or finds the solution him/herself;
- develops, and helps his/her students to develop the knowledge, values and skills required for learning to know, learning to do, learning to live together, and learning to be;
- develops and helps his/her students to develop qualities deemed essential for the future, such as creativity, an open mind before change and innovation, versatile learning, the ability to anticipate and adapt to shifting scenarios, discernment, critical attitude, problem identification and solving;
- encourages educational activities beyond the school grounds by reaching out to those who have been excluded, re-enlisting those who have dropped out, and catering to the needs of parents and the community as a whole;
- accepts his/her new status as “permanent apprentice” and becomes a “learning leader”, striving to stay updated and open to new knowledge;
- keeps an open mind when it comes to incorporating or handling new teaching technologies for implementing both inside the classroom and outside it, and for advancing his/her own permanent learning;
- keeps him/herself well – informed through the media and other sources in order to gain a greater understanding of the major issues of the contemporary world;
- prepares his/her charges to make a selective and critical use of the information delivered by the mass media;
- encourages new and more significant forms of parental and community participation in school life;
- is alert and sensitive to community problems and committed to local development initiatives;
- is receptive to parents' aspirations in terms of the educational achievement of their children, to the social need of attaining greater access to education, and to the pressures for a more democratic participation in the schools (OECD, 1991);
- is perceived by his/her students as both a friend and a model, as someone who is there for them to listen and help out (UNESCO, 1996).

This list of “desirable teaching skills” raises several questions:

- Assuming the feasibility of creating such an “ideal teacher” –never mind how much it stretches the limits of the human endeavour–, what educational and social model would it reflect? Are these skills and values universally accepted and sought after in the various societies and cultures? Are they part of a coherent educational model, or do they respond to different models perhaps at odds with one another? What portion of it is, for example, compatible with a centralised school scheme or with a decentralised one; with a “human capital” oriented model or with a “human development” one?<sup>3</sup>
- Is this the actor – and the corresponding implications – the national and international minds responsible for educational decision-making, are willing to endorse? Is this, the actor and conditions being actually built by the educational policies and reforms that since the mid-eighties have been advocated under the label of “improving the quality of education”? Does the political will exist to introduce and fund these changes, develop the required strategies, and provide however much time it takes to see them through, really exist?
- Which portion of it is consistent with the logic, needs and possibilities of developed countries (and, specifically, which of them lead the way ) and which is consistent with the logic, needs and possibilities of developing countries (and with their heterogeneity)? Which portion of it all is compatible with the educator profiles, school traditions and structures, teacher training, political culture, styles of leadership, poverty and social segregation

levels, bilingual and multilingual realities, budgets, etc., predominant in today’s developing countries?

- Which of these knowledge and skills are learnable? Which of them can be taught, that is, may be imparted through a deliberate education or training effort? And, if this were the case, under what conditions, and based on which strategies and pedagogical methodologies should they be taught?
- What part of it may be learned during adulthood (and during the professional training years of a teacher) and what may (or must) be learned during childhood (in school)? What can be learned during in-service training and what while actually teaching? What part of it demands the physical presence of the individual, and what part can be entrusted to distance education modalities or attained through the use of modern technologies?
- What part of it becomes the burden of teacher training institutions – whether initial or in-service – and what other players such as the family, the school system, the mass media, libraries and various forms of self-learning and inter-learning among peers, share this responsibility?
- What are the labour and organisational requirements (salaries, seniority, duration, etc.) for performing and developing these skills and continuing to learn while practising the profession?
- What part could be replaced by technologies which require neither interaction between individuals nor the physical presence of a particular teacher? Which of these skills (and their respective learning requirements) could be substituted for, say, school textbooks, tape recorders, computers, videos, CD-ROMs, Internet, and so forth?
- To what extent is this list not quite ensnared in the logic of the conventional school model which propounds –at best– improvement rather than transformation? To what extent does this “new teacher role” fail to envision the glaring deficiencies and the huge possibilities looming in the near future, the

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<sup>3</sup> *Human development* has been defined as “the process through which the spectrum of the individual’s choices is widened – increasing his/her opportunities to an education, medical care, employment and income – encompassing, in so doing, the entire range of human alternatives, from a sound physical environment to economic freedom and human rights” (UNDP, 1990).

complexities of a world which is becoming increasingly polarised in every dimension, advancing simultaneously towards standardisation and differentiation, globalisation and exacerbated localism, and unchecked development of communications along with intensified fragmentation and exclusion?

Before attempting to address the what, who, how, to what end, and when of teacher education/training initiatives –and the costs involved–, it is essential that we set things in the proper perspective, raise the necessary questions and build each individual case, focusing both on its general and particular aspects. This done, we will be able to view this issue from new perspectives which have risen over the old and the new antinomies (general knowledge/pedagogical knowledge, initial/in-service training, individual/team learning, education in/out of the school, etc.) between which education seems to move, as well as to identify needs and create scenarios before actually becoming involved in cost and budget analyses – the prevailing criterion when it comes to determining what constitutes desirable and viable educational policy.

In fact, this list of “teacher skills”, as other listings in circulation, usually generated in developed countries, have been transferred to developing countries without the benefit of revisions or critical reviews, although in the former countries this situation has been –or is in the process of being– reversed (see: Barth, 1990; Beare and Slaughter, 1993; Fullan, 1993; Hargreaves and Hopkins 1991; Hargreaves, 1994; among others.)

The rationale behind the listings has come under fire precisely because of the simplicity of educational change they often seem to promote, their alleged universal validity, and the fact that they merely describe a set of desirable traits but fail to provide the elements that may help creating them under realistic settings. The list itself does not contain any indications as to what type of training or working conditions teachers would require to successfully

master and implement these skills. The “ideal teacher” and “ideal school” remain an unsettled issue and a challenge for each and every concrete country and community.

### **The current situation: educational policy and reform in the 90s**

Bridging the gap –particularly evident in developing countries– between what is desired and the starting point in relation to the teacher issue, would demand a gargantuan effort, sustained and long-term strategies, urgent measures and system-wide policies. This, within the framework of a thorough and comprehensive revision of the school model and the status of educators, and radical changes in the way educational policy has traditionally been formulated – namely, biased toward material (infrastructure, technology, etc.) rather than human resources, quantity over quality, and the short-run over the medium and long-run.

In the last ten years national and global policies formulated and measures adopted to cope with the “teacher issue”, have failed to reflect the complexity and urgency of the problem, and conversely –it would seem– are contributing to reinforce some of the more negative trends, those that undermine the professional status of teachers.

In recent years, and in a context of feverish adjustment measures, teacher salaries have continued to plummet –rather than, at the very least, flattening out–, and where salary increases have been implemented, they have not been significant enough to undo the damage, make the profession more enticing, or stop the brain drain.

The anaemic participation of teachers and their organisations in the formulation of educational policy and specifically in that addressing teacher education and training, has been the rule rather than the exception in education reform processes, a situation which has predictably caused much distress – and in many cases outright opposition – among teachers and



teacher organisations. Decentralisation measures have often been unaccompanied by specific training and team-work reinforcing efforts, *sine-qua-non* if full school autonomy –that is, beyond mere administrative and financial decentralisation– is to be achieved.

The introduction of modern technology –specifically, the computer– has generally not gone hand in hand with the strategies and resources intended to sensitise and prepare the educator for handling this technology, thus widening the cultural and technological gap between teachers and their students.

This stripping of the professional status has gradually become a “symbolic defrocking” (Perrenoud, 1996): the educator is increasingly seen as a mere mechanic, a second – stringer, just another “input” in the teaching assembly line (Lockheed and Verspoor, 1990; the World Bank, 1996), someone with a growing dependence on the textbook, the expert, and the external agent.

Teachers (and their organisations) are regarded as obstacles, “high-cost inputs”, while textbooks, modern technologies, distance education, self-learning and self-evaluation proposals have become repositories of great hope, and viewed as the swiftest and most “cost-effective” alternatives to teacher training. In fact, they are being presented not only as educational complements, but as schemes intended to by-pass the work of the teacher<sup>4</sup> (Attali,

1996, Delors *et al.*, 1996; Perrenoud, 1996; Coraggio and Torres, 1997; Torres, 1996a, b, c, 1997).

Oddly, the discourse on the new teacher role appears to be detached from the need for a new teacher education model. Within the framework of the “projects to improve the educational quality” funded by international banks, teacher training initiatives have been allotted shoe – string budgets and minor spaces, with the lion’s share of the resources going to in service teacher training (usually disconnected from initial training) in the form of short-term, instrumental programmes, tied to the execution of a given policy or reform strategy, driven by a “recycling” notion which basically involves up – dating teachers in terms of curricular content, and where no significant breaks with past schemes are evident.

Likewise, the “emphasis on learning” –adopted specifically for basic education, on occasion of the World Conference on Education for All (Jomtien, Thailand, 1990)– has been interpreted exclusively from the perspective of the student, not also –and primarily– as the learning which is necessary to those who actually do the teaching.

In general terms, the connection between the stated objective of “improving educational quality” and improving the quality of teachers, a necessary condition to achieve the former, has yet to materialise. Attention and national and international debate have focused on the gap between available and necessary financial resources, rather than on the gap between available and necessary human resources. Governments are being recommended to “save” in teachers’ salaries (by, for instance, increasing the number of students per teacher in the classroom), however, not for the purpose of investing the amounts saved on teacher training programmes, but on textbooks and other teaching-learning aids (World Bank, 1996). In fact, when it comes to policies targeted at teachers, the governments of developing countries find themselves torn between two antagonistic forces: the recommendations issued by inter-

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<sup>4</sup> Many caveats against this state of affairs are evident across the world. The Delors Commission Report makes an explicit recommendation to “always favour the teacher-student relationship, since cutting edge technology can serve, at best, only to support this relationship (transmission, dialogue and confrontation) between educator and learner” (Delors *et al.*, 1996:36). Likewise, the Education for All Follow-up Committee has cautioned that “(...) while we must endeavour to make better and wider use of technology and communications, these can only supplement the teaching process but never substitute the educator in its essential role as organiser of the instructional process, guide and role-model for the young (UNESCO - EFA Forum, 1996. Our translation).

national lending agencies, and complaints by teacher unions.<sup>5</sup>

### Conditions, peculiarities and heterogeneity of “developing countries”

Historically, the educational policies promoted in developing countries have been patterned after models, concepts and policies formulated by and for developed countries.

The underlying axiom is that what is good for developing of countries coincides with what has already been implemented in developed countries, following a criterion similar to that which ranked countries as more/less developed, thus reducing the problem and the solution to a lineal extrapolation of the desired or achieved outcome by “those further ahead”.

International organisations have played a key role as mediators in the transfer of ideals and models to these countries which tend, in turn, to adopt them unquestioningly. Thanks to the rapid progress of communications and the increasingly assertive role of international agencies –banks, in particular– in the definition and

funding of educational policy for the world’s developing countries, in recent years the time lag that has traditionally accompanied these transfers, has been greatly reduced. Today, the United States’ and the Anglo-American mindset have an hegemonic influence on education, having spread not just to Latin America, but to Asia and Africa as well, mostly through the global –and also hegemonic– influence of the World Bank.

The “real teacher” working in a school of a developing country –the historical product of concrete policies and decisions– is distant from the “ideal teacher” portrayed in the listings. As a rule, basic education teachers are poor (and mostly women and housewives, in the case of Latin America and the Caribbean), have low professional advancement expectations, possess a poor general education – which often does not include completed secondary education, have little, if any, teacher training, and are themselves the victims of a deficient school system, the very one they are supposed to help improve.

Available information reveals significant voids in the teachers’ own basic education backgrounds (a phenomenon extensive to supervisory and management personnel) which include reading comprehension problems, poor reading habits and limited exposure to books, technology or scientific matters. This situation has led to initial and in service teacher training programmes which, in the end, basically serve a compensatory or remedial function.

At the same time, teacher recruiting standards have slacken considerably, both at the training centres and within the school system, while in a number of countries the doors have been thrown open to unqualified teachers.<sup>6</sup> In most countries, teacher salaries are comparable

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<sup>5</sup> In this connection, an African Minister of Education observed: *“In general, our governments are subjected to two types of opposing forces which are constantly bombarding us. On the one hand, we are the largest employers of civil workers, ranked among the top spenders, and worst of all, generate no income. Consequently, we take flak from the International Monetary Fund and the World Bank, while the Finance Ministry is constantly imposing austerity measures on us. On the other hand, the teaching profession, having –as it does– enough reasons to be disaffected, takes issue with the authorities in defence of their own interests. It is up to our Ministry’s personnel to negotiate with their representatives and stave off social conflict. Between the measures designed to shrink public services, reduce salary payments and redistribute personnel taken ‘at the top’, and the demands for salary increases, and better working and professional advancement conditions made ‘at the bottom’, our bargaining margin is extremely narrow”*. (Excerpt from a speech by Diallo Hadja Aïcha Bah, Guinea’s Minister of Education, June 23<sup>rd</sup>, 1995. In, DAE, 1995: 6. Our own translation).

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<sup>6</sup> Based on UNESCO-OREALC information (1992), some 20 per cent of Latin America’s basic education teachers, most of them found in the rural areas, have not received any formal professional training.

to that of an unskilled manual labourer, undervalued and poorly paid. In this context, access to higher levels of knowledge and qualification often lead to better employment opportunities, and to a permanent cycle of teacher training programmes.

In the vast majority of developing countries the reality of the school systems, and the teaching and learning conditions under which they operate, are precarious –even dramatic–, very distant from the “efficient school” environments described for the OECD countries. A UNESCO-UNICEF sponsored research study (1994) on the conditions of primary education in 14 developing countries revealed the following:

- a high turnover rate on the part of the teaching staff;
- countries where 60 per cent of the teachers have only finished primary school and 20 to 30 per cent lack pedagogy studies;
- most teachers work between 5 and 6 hours a day, often in two or three shifts;
- classrooms stripped of basic furniture – no blackboard, or even a table and chair for the teacher;
- the average class size for first grade can range anywhere from 25 to 112 students (Schleicher *et al.*, 1995).

In fact, the list of teacher skills (rather extensive in its own right) has been added to a second list (just as extensive) of assistance tasks –brought about by the rising pressure to bring upon schools the responsibility of tackling problems stemming from poverty, unemployment and family crises– which currently form part of the regular work of practically every public school teacher.

In the poorer countries and socio-economic sectors, schools have become dining halls for the students –and even for the community–, nurseries for younger siblings, spaces for juvenile containment and socialisation, community hospitals, storage and supply facilities, dispensaries, cultural centres, and powerhouses of income-generating projects, in ad-

dition to their time-honoured functions as coordinators of the services, policies and demands generated by the various social actors and institutions.

These are the real conditions present in developing countries that define the starting point of any form of educational transformation, a definition of the new role of their teachers, and the strategies needed to attain these objectives.

### **The multiple scenarios of teacher learning: beyond teacher training and beyond the teacher as a school agent**

The knowledge and skills accumulated by a teacher (and, specifically, those included in this list) are learned throughout a lifetime: within the family and the school system, during their professional training, and through his/her own practice as a teacher.

Seen from this vantage point, the limitations of a scheme (including the “new scheme” advanced by current reforms) that continues to restrict teacher preparation to teacher training stages, to separate initial from in service training, and to dissociate both from the scholastic biography of each teacher, that is, from the school system and its ineluctable reform, are fairly evident. Acknowledging the multiple and complex skills a good teacher (one capable of guaranteeing a quality education) would require, the severe backwardness of his/her education, the swift production of knowledge, and the unprecedented technological progress, presupposes acknowledging the need for permanent *learning* –a broader and more inclusive concept than permanent *education*– as something real, and as an essential condition to teaching.

Embracing permanent learning implies:

*Recognising the importance of learning for teachers:* The likelihood of accomplishing a far-sighted school reform, based on learning, requires as pre-condition the participation of teachers who are “learning leaders” – the school

principal being the main leader— and a school that is emblematic of a true learning institution (Barth, 1990). Therefore, prior to tackling the problem of how to get teachers to teach better, it would be wise to ask ourselves what needs to be done to facilitate and guarantee learning by teachers (Alliaud, 1998).

Recovering the centrality of learning by overcoming —and helping teachers overcome— the traditional notions that view teaching and learning as fixed functions, embodied in differentiated individuals and functions, is of paramount importance not only for the students but for the teachers as well. Teacher training programmes, must now be gauged from the standpoint of learning, and the learners, rather than from the perspective of teaching and supply (thus the expressions: “formation”, “instruction”, “training”, etc.) .

By the same token, the direct relationship between teacher training and student achievement people have come to expect —and educational managers have come to use as criterion for salary increases and the granting of incentives— must be challenged, since it is based on a myopic view of learning in general, and of the links between learning by teachers and learning by students, in particular.<sup>7</sup>

Perhaps one of the areas that pose the greatest challenge to researchers, consists precisely of gaining insight into the nature of the knowledge and learning acquired by teachers, and the motivation mechanisms behind it, a veritable Pandora’s box which is just beginning to be explored scientifically, and is expected to re-define traditional teacher training and place it within the domain of adult pedagogy where it can surmount the narrow boundaries which have traditionally confined it.

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<sup>7</sup> Several studies reveal that attitudes and expectations found among teachers (and not necessarily ascribable to their education and training) tend to have a greater impact on student achievement and the teacher’s own performance, than their mastery of contents or pedagogy.

*Taking the academic trajectory of the teacher as a starting point, and assuming the reform of the school system as part of the teacher education strategy:* By assuming that “initial formation” is the very beginning of the teacher training process, the significance of the academic biography of the future teacher, has been grossly overlooked. And, this not only with regard to curricular content, but to the learning about teaching —and about learning, too— that takes place within the school walls, as part of the “hidden curriculum”. The keys that will importantly determine the educational practice and teaching style of the teacher candidate, may be found locked inside the former schoolchild, rather than at the initial or in-service training stages.

Be that as it may, this training takes on an eminently reproductive or “corrective” function of this basic matrix where beliefs, knowledge and common sense about what teaching and learning are, seem to converge.

The transformation of the school system then, becomes a prerequisite both for bringing about a successful teacher training reform and raising teachers’ standards. This transformation should focus on:

- the deficient general education (which should include basic language skills, the capacity to research and learn how to learn, and computer skills — a basic learning need in today’s world) which future teachers bring to their professional training (or those who have not had the benefits of a higher education, bring to their work);
- the internalisation of an obsolete curricular/pedagogical model which — along with becoming the referent wherein common sense and the value parents and the society at large place on education converge - leaves on the future teacher deep, difficult to remove scars;
- the lesser cost and greater benefit commanded by school system reforms (targeted at students in general and future teachers in particular), as compared to subsequent investments on teacher training programmes designed to com-

pensate for the shortcomings of primary and secondary education;<sup>8</sup> and,

- the fact that learning to teach should become part of the school curriculum, if due consideration is given to the formative and reflective values of teaching, the role of educator every person assumes in his family and social life, and the broader function expected from schooling in the future.

*Assuming the multiple identities of teachers:* Teachers are more than just teachers: they are men and women, sons and daughters, fathers and mothers, former students, workers, community agents, consumers, television viewers, citizens. Assuming the multiple identities teachers have, implies assuming the multiple social roles they must perform, and the multiple settings where their lives and learning unfold.

“Teacher training” has tended to portray the teacher in one fixed role –that of a teacher– and in a single scenario –the school–, and even restrict possible alternatives to these two dimensions (training either in the school or outside it, but always within the school system; either individual or group training, but always among teachers, etc.).

However, there is learning which is relevant to what they do and can best be acquired from other settings and identities:

- what a female teacher finds difficult to understand from the educator’s perspective, may be more easily understood as a mother;
- the capacity of forming and persuading that children have over adults, greatly outdoes that of any other person;
- a radio or television programme may be more effective to some specific areas of learning than a conference or seminar;
- public or community libraries are frequently more attractive and better furnished than school libraries;

- the programme that brings together parents and teachers, or teachers and students, or teachers and administrative personnel, can allow situations and learning experiences that exchange “between peers” cannot.

### **A new teacher education and training model for the new teacher**

Teacher education/training programmes and institutions, have been the finest exemplaries of an authoritarian, bureaucratic, and transmission – oriented scheme, that scorns learning. This is why building a different school entails the highest commitment to transforming the traditional teacher education paradigm. This commitment demands, at the very least, a coherent stance: it is no longer possible to ask teachers to implement in their classrooms something that was never part of their own professional training. Coherence, when it comes to contents, approaches, methodologies, values and attitudes; coherence between what educators learn (and how they learn) and what they are asked to teach (and how to teach) in the classrooms.

*Teachers as subjects, not as beneficiaries:* The design of teacher education policies, programmes and plans, requires the active participation of teachers and their organisations, not only as recipients but also as protagonists who, besides contributing essential knowledge and experience to the assessment, proposal and implementation stages, are themselves likely to learn and advance along the process.

*Strategy planning and long -term strategies:* Human resources formation is a long-term task and an investment initiative that demands sustained and systematic efforts. This implies adopting a strategic view that surmounts the quantitative (number of courses, hours and credits) and short-term mentality (currently embodied in the “project culture” which views teacher education itself as a strategy. If teacher education is envisioned as part of an itinerary

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<sup>8</sup> According to World Bank estimates (1996), investing in secondary school reform is between 7 and 25 times cheaper than attempting to patch its deficiencies through teacher training efforts.

(primary and secondary school, initial and in service training, teaching practice, self-instruction, mass media, etc.), the binary options (initial/in service training, general/specialised knowledge, mastering content/knowing how to teach, theory/practice, contents/methodology, distance/classroom modalities) become blurred, and give way to uncertainties about priority definitions, most convenient combinations and time sequences.

*Articulating initial and in service training:* Initial and in service training must be visualised as part of a single process, a concept at odds with the separation (and modern disjunctive) that has traditionally been inflicted on these two stages.

In recent years, this separation seems to have intensified: in service training has been vindicated as a more “cost-effective” alternative, more amenable to the introduction of innovations, and more in line with the dynamics of decentralisation and modern reforms. Fortunately, this latest bias, this time favouring in service training, is presently undergoing close scrutiny, even at the hands of funding agencies.

*Vindicating professional practice as a privileged space of learning:* The teaching practice represents the most important, permanent and effective space for teacher learning, as any educator will be willing to admit.

Reflecting on what one does is the key to the “reflective professional” (Schon, 1992). Reflecting on one’s own teaching and learning methods is an essential part of “learning how to learn” and “learning how to teach”.

In numerous countries, reflection and the critical and collective systematisation of the teaching practice have been increasingly incorporated into localised innovative experiences and massive national teacher training programmes. However, in order for this reflection to be effective and capable of spawning new knowledge, the proper conditions must be assured and the pertinent mechanisms fine

- tuned. Universities and academicians, by looking upon themselves as “facilitators” of teacher education in terms of their own practice, and not merely as instructors, are in a position to contribute importantly to this. The need to include a critical appraisal of the concept and exercise of the professional practice – which tends to be unquestioningly accepted by student – teachers and their instructors alike – as part of the initial training curriculum, has also been proposed (Pérez Gómez, 1996).

*Identifying (and revising) the points of departure:* In order to release the tension and cover the distance that separates the point of arrival (as seen from the perspective of he/she who teaches) from the point of departure (as seen from the perspective of he/she who learns), and define the strategies that will be required to travel this distance, the active participation of those teaching and learning is necessary.

Both in the case of children and adults, the starting point of any learning is determined by the baggage of knowledge and motivations a particular student brings into the classroom. Identifying such starting points (diagnosis) entails listing not just the student’s “deficits” (what he/she does not know, lacks or is not) but also the strengths and potentials (what he/she knows, has and is), which is precisely the lift - off point of the learning process.

Obviously, working more closely with teachers towards a better understanding of their own learning needs, as a means to achieving the desired professionalism and autonomy, is a substantial objective of the training process itself.

You can not “make an omelette without breaking eggs”. In other words, training must expressly identify and analyse –along with the future teachers– the set of knowledge and beliefs which shape the individual’s common sense attitude towards education and learning, and which are the foundations of the old school we all carry deep within us. Various studies are beginning to shed light on –and attempting

to explain – the inefficiency of illuminism, encyclopaedism, and theoretical bias in teacher training, the jargon and nominalism that conceal cross - purposes and *non sequiturs*, the dearth of hands – on experience, the close – and apparently harmonic – coexistence between innovative discourse and obsolete teaching practices, etc.

*A unified, but diversified, teacher education system:* In order to respond to the various profiles and possibilities inherent to each context, and simultaneously maintain the unity and coherence that must characterise teacher education as a system – it is necessary to diversify it (suppliers, modalities, contents, pedagogic methods, technologies) rather than standardise it or opt between disjunctives.

In this respect, the State plays a fundamental role, specially in the presence of decentralised teacher training schemes which, with the co - operation of universities, research centres, non government organisations, the private enterprise, teacher organisations, and so forth, are being institutionalised in several countries. This implies in turn the formulation of quality and equivalence standards, as well as the implementation of evaluation and co-ordination mechanisms.

Top scientists, intellectuals, artists, writers, and craftsmen, should be invited to participate collectively in the preparation of teachers, not only in the conventional spaces – teacher training institutions and schools– but specially in those other environments teachers hardly ever access: laboratories, libraries, museums, art galleries, artistic expression workshops, etc. Obviously, teacher organisations should also contribute to the definition and implementation of reformed training strategies and programmes.

The diversification of teacher training settings, contents and modalities has become indispensable. The Delors Report (1996) includes several suggestions in this respect, many of them seemingly simplistic, even ob-

vious, but highly innovative particularly in a field which has ostracised itself and has an old renewal and curricular/pedagogical experimentation debt to settle with the education community.

Among its various recommendations, the Report suggests alternating training activities in the school system and outside it, with rest periods in between; bringing together teachers with other professionals, rookie teachers with seasoned educators and researchers, in their respective speciality fields; introducing mobility between teachers and other professionals, for limited periods of time; alternating between work and study, including work in the economic sector in order to bring theoretical and technical know - how closer together.

There is no such thing as a modality that is right for everyone, everything and always; each has its own weaknesses and strengths. Distance education modalities –the current argument behind their promotion being their “cost-effectiveness” over mainstream modalities– may be well advised under certain circumstances and for achieving specific objectives; besides, high quality distance education combines self-instruction with classroom and group interaction components, thus blurring the distinction between distance/face-to-face education, and ultimately raising the need to formulate integrated strategies.<sup>9</sup>

The menu of options has widened considerably in recent years, enriching the traditional approach –centred on the event, oral transmission and the textbook (class, course, seminar, workshop)– with internships, groups engaged

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<sup>9</sup> Comparative studies of various teacher training modalities – (classroom) initial and in service, and (distance) in service – conducted in the 80s in Africa (Tanzania) and Asia (Sri Lanka and Indonesia), suggest that distance education modalities may have a comparative advantage in “matters involving verbal information and transmission”, but not in areas associated with mathematics, the sciences or the development of group working skills (Tatto, *et al*, 1991; Nielsen, *et al*, 1991:4).

in the analysis and reflection of pedagogical practices, observation of classroom activities, establishment of “good practice” centres, written accounts and experience exchanges, life histories, the utilisation of cartoons, videos, psychodrama, etc. The new teacher education schemes also consider breaking the traditional isolation that has characterised the work and culture of the teacher, encouraging encounters, interchange and peer learning. This, along with the introduction of affective and emotional aspects –rather than strictly cognitive– which include games, entertainment, movement, body language, and so forth, is contributing to crack the formalism and intellectualism that has traditionally surrounded the teaching profession

“Education” rather than mere “training”: The minimalism and instrumentalism that have characterised teacher - oriented programmes –both initial and in service–, find justification in the alleged constraints imposed by a demand (the teachers’ own) more interested in “recipes” and practical guidelines than in theoretical postulates and arguments, more concerned with political timing, budget limitations or with those inherent to “teacher trainers”.

Although the perceived needs of teachers should constitute the starting point of any teacher education reform initiative, the challenge consists of attaining a comprehensive education, not restricted to the transfer of contents, methods and techniques, but essentially one that is designed to provide what the teachers themselves are being asked to facilitate their students: to learn to think, to reflect critically, to identify and solve problems, to research, to learn, to teach. In fact, this is meaning of the term *education* as opposed to *training*.

**Teacher education is not enough:  
The need for a systemic approach and a  
comprehensive package**

If the “ideal teacher” really existed, and could effectively apply all those attributes to his/her

professional practice, we would be looking at a different individual, holder of a different academic biography, who works for a different institution and under different conditions, who enjoys social prestige and earns an income commensurate with that of an intellectual responsible for performing a highly complex social task, who can well afford and is willing to make teaching a full time activity, who enjoys what he/she does and gives it everything he/she has got, both in the classroom and outside it, who assumes his/her own permanent learning as inherent to the teaching profession, and who has access to books, communications, and cutting – edge technology.

Within a highly fragmented educational policy scheme, there is a strong tendency to isolate the training activity from other areas critical to teachers’ performance, such as salaries and working conditions. As long as teaching continues to be advertised as an undervalued and underpaid endeavour, simple in nature and requiring minimal skills, usually limited to choosing from a repertoire of techniques and following instructions, the work entrusted to teachers –and to schools– will not be vindicated. As long as teaching continues to be regarded as a transitory, mediocre alternative, teacher education will remain an extension (and a duplication) of the inefficient school, a useless investment, and –given the severe exodus and high turnover of the profession in numerous countries– a never ending task.

In recent years, the concept of horizontal cooperation between teachers and teaching institutions, and of professional development accomplished collectively and in the schools, has had a strong impact in developing countries, permeating government and non-government organisations alike. However, when attempting to implement these ideas under real conditions, severe problems stemming from the inchoate state of certain essential conditions, are usually encountered. Efforts aimed at taking training to the schools (rather than sending individual teachers to training centres or semi-



nars) run up against not just distance and infrastructure problems, but also against the salary issue, since this alternative eliminates the monies received as *per diem*, an important source of supplemental income for many teachers and school managers.

The very notions of “school team” and “collective work” are often impossible to follow through, given the persistence of vertical schemes both within the schools and the school system, aggravated by conditions of multi-employment and high turnover rates among teachers, the result of prevailing working salaries and conditions.<sup>10</sup> Likewise, in the absence of a tradition and basic skills to accomplish the task, the elaboration of School or Institutional Projects –generalised in today’s school reforms– is often commissioned to external consultants, thus defeating the very meaning and objectives of such projects.

In synthesis: teacher education and training can not be seen in isolation but as part of a package of measures intended to revitalise the teaching profession, within a framework of broad and substantial changes in school culture and organisation. As in the past, the absence of a systemic view of educational policy and reform continues – and probably will continue – to negate the possibility of successfully implementing the desired changes, no matter how small they might be.

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<sup>10</sup> São Paulo’s Continuing Teacher Education Project launched in 1996, established the so-called Collective Pedagogical Working Hours for every school in the state. However, according to reports, the fact that teachers normally sign work contracts with different schools, makes it practically impossible for them to meet during working hours (Ação Educativa - PUCI, 1996). A similar situation was reported in Chile during the first year of implementation of the extended school shift, since teachers’ schedules not always coincide (Milesi and Jara, 1998).

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## COST-EFFECTIVENESS OF PRIMARY EDUCATION POLICIES IN LATIN AMERICA: A SURVEY OF EXPERT OPINION

**Ernesto Schiefelbein, Laurence Wolff and Paulina Schiefelbein**

*Most educational projects implemented in the region in the last two decades do not meet the priorities selected by a group of ten international experts, mainly located in universities and international agencies. Their answers and costs estimated by the authors are presented in an index of cost-effectiveness of 40 possible primary school interventions.*

*This index provides a new approach for assessing educational projects.*

*Rather than reviewing or undertaking empirical research, the authors measure the opinion of leading world educational researchers acquainted with Latin America.*

*This exercise should be refined and improved by contacting larger numbers of experts, undertaking more sophisticated analyses and trying out a similar approach in other regions (e.g. Africa and South east Asia).*

*Results can be used in training courses for upgrading the skills of educational planners.*

Education is increasingly considered the key to economic success, and investments in education by national governments as well as international agencies are growing.

In spite of this increased interest, most educational investments are made on the basis of untested or partially tested assumptions about the cost-effectiveness of particular interven-

tions. In fact current knowledge about cost-effectiveness in education is extraordinarily inadequate, especially considering the amount of money that goes into education.

The problem is that measuring the cost-effectiveness of educational interventions is a difficult, time-consuming and costly task requiring sophisticated research instruments. In

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the developing world only a small number of studies on cost-effectiveness of educational interventions have been completed; even these are often not taken into account when designing education reforms. While cost-effectiveness research is rare, at the same time there is substantial evidence that the quality of schools in developing countries does matter, especially since schools in the developing world often have very inadequate physical and human facilities to begin with. Among the critical items that regularly show up as important factors affecting learning and retention are the availability and use of textbooks, the provision of pre-schooling, radio instruction, and some in-service training programs (Lockheed and Verspoor), but these have only rarely been related to costs. In Latin America, up to 1998, the primary education experiments which have been adequately evaluated and the results widely disseminated included: radio mathematics in Nicaragua (Jamison *et al.*, 1981); educational TV in El Salvador (Hornik, 1973); Northeast Education program in Brazil (Harbison and Hanushek, 1992); Escuela Nueva in Colombia (McEwan, 1995; Psacharopoulos *et al.*, 1995; Rojas and Castillo, 1988); P-900 in Chile (Gutman, 1993); Escuelas Fe y Alegría (Swope *et al.*, 1998); EDUCO in El Salvador (Ministerio de Educación, 1996); and accelerated primary schools in Brazil (Oliveira, 1998).

The question of what is the most effective way for schools to use their limited resources is critical for Latin America. The region is far behind its competitors in terms of quantity (school completion rates and the average level of education of the labor force) and quality (in terms of learning).

Only recently has comparative information on learning in the region become available, through the UNESCO/OREALC laboratorio regional study on learning in third and fourth grade. Table 1 shows the scores of 11 Latin American countries on the test. No country in Latin America, except Cuba, does very well on this test, which measures a much simpler and less sophisticated range of skills than the

**Table 1**  
MEDIAN SCORES ON UNESCO  
REGIONAL TEST OF FOURTH GRADE  
MATHEMATICS<sup>1</sup>

Country	Score
Cuba	353
Argentina	269
Brazil	269
Chile	265
Colombia	258
Mexico	256
Paraguay	248
Bolivia	245
Dominican Republic	234
Venezuela	231
Honduras	226

<sup>1</sup> Median standardized score of 250 for grades three and four and standard deviation of 50. The average student in the region answered about 50% of the questions correctly, compared to about 85% correct answers for Cuban students. Source: "Primer Estudio Internacional Comparativo", UNESCO Laboratorio Latinoamericano de Evaluación de la Calidad de la Educación. Santiago, Chile, 1998.

tests given in the developed world. The test also shows that rural areas score lower than urban areas, capital city scores better than smaller urban areas, and private schools (except for the Dominican Republic) score better than public schools.

### The survey

With regard to what has an impact on learning, as noted above, there is inadequate information.<sup>1</sup> Given the importance of the subject

<sup>1</sup> This does not imply that, in addition to the research mentioned above, that some good research has not been undertaken. Sector studies in Honduras and El Salvador examining issues related to repetition and school failure (Reimers and McGinn) have led to a variety of programs designed to reduce repetition. But there are many uncertainties and inconsistencies in the few pieces of systematic research undertaken, especially with regard to impacts on learning. For example while decentralization in El Salvador through EDUCO has defi-

and the difficulty in undertaking traditional cost-effectiveness research in education, intermediate and less time-consuming approaches to measuring cost-effectiveness should be sought, as means of helping researchers and practitioners to gain a better understanding of the issues related to this important subject, as well as possibly to develop a tool for training, consensus building and identifying critical research areas. With this in mind the authors devised a survey instrument which was given to ten international experts, mainly located in universities and international agencies, and about 30 Latin American planner/practitioners, most of them working in the planning office of their ministries of education. Each respondent was asked to estimate the impact of 40 possible primary school interventions on learning (as defined by the score on a standardized test given at the end of sixth grade), as well as the percentage probability of successful implementation. The authors plugged in their own estimates of the incremental unit costs of these interventions, and then created an index ranking the cost-effectiveness of each of the 40 interventions.

The 40 interventions presented to the experts were selected based on: the components of educational projects and programs, both successful and unsuccessful, implemented in Latin America in the last twenty years; educational policy recommendations and priorities proposed by international organizations and de-

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nately resulted in increased enrolments of rural students, but there are few clear differences in achievement and retention between EDUCO and traditional schools. EDUCO schools have more inputs, greater time on task, and increased parent participation, but increased learning may depend more on increased expectations which have to come along with decentralization, including a targeted focus on learning (Meza). In Nicaragua there is evidence that autonomous schools have higher rates of retention, but other factors may be influencing this measure. Teachers and parents appear more satisfied, but the output results also are not clear (Castillo). In fact, while there are strong social and political reasons for decentralization, especially the building of civil society, throughout the world there is little hard evidence that decentralization results in increased learning.

velopment banks (Lockheed and Verspoor, 1991; World Bank, 1994; Carnoy and Castro, 1997); main findings in regional diagnostic surveys carried out in the 1990s (OAS, 1998; Wolff *et al*, 1994); research reviews of previous studies on the cost-effectiveness of key strategies (Wolff *et al*, 1994; Lockheed and Verspoor, 1991; Verspoor, 1989); and the possibility to be expressed in a simple and accurate way so that the comparison of estimations could be reliable.

The interventions identified include the five "promising policy interventions" selected by Lockheed and Verspoor (1991, p. 28): instructional time; textbooks and learning materials; increasing the learning capacity of students (food, health, and initial education); teacher training; and curriculum. The strategies were also consistent with the California reform experience (Chrispeels, 1997). A number of interventions that are common in the region were also included despite the fact that there is at least some evidence that they are not effective. A first version was tried out with participants in three UNESCO planning courses held between 1994 and 1996. The experience was used to organize the strategies into twelve operational areas, as seen in Table 2. The forty interventions themselves are described in Table 3.

Since there is increasing consensus that combinations of interventions may have a cumulative impact, a number of the forty combine two or more interventions. For example, in addition to strategy 11 "decentralization of authority to school principals," there is strategy 12 "same as 11 but improving capacity of the ministry for monitoring." Also, in addition to strategy 16, "provide two textbooks per student," there is strategy 17 "same as 16 plus one week training for teachers."

In order to produce reliable comparisons, a target country "Concordia" was defined. This country, which is described in Table 4 is based on averages for the region on population, costs, student-teacher ratios, school inputs, and test scores. Thus, every participant provided answers linked to a common education context.

**Table 2**

EDUCATION INTERVENTIONS BY OPERATIONAL AREA

<i>Area</i>	<i>Intervention number<sup>1</sup></i>
Time on task	3,4,5
Academic management	1,2
Salaries	6,7,8
Management and decentralization	9,10,11,12
Testing	13,14, 15
Textbooks and self learning materials	16,17,18,19
Food and health	20,21,22,23,24,25
Initial education	26,27,28,29,30
Teacher training	31,32,33,34,35
Curriculum	36,37
Radio and computers	38,39
Package of interventions	40

<sup>1</sup> Intervention numbers correspond to Table 2.

**Table 3**

FORTY POSSIBLE EDUCATION INTERVENTIONS IN LATIN AMERICA

1. Enforce a policy not to switch classroom teachers during school year.
2. Implement a policy to assign best teachers to first grade.
3. Enforce regulations on official length of school year.
4. Extend daily schedule by one hour (40 minutes academic classes, 20 minute recreational) and pay teachers additional proportional salary.
5. Extend length of school year by one week and pay teachers additional proportional salary.
6. Pay teachers in rural schools salary increment of 50 percent to have better trained teachers and raise the percentage of certified teachers.
7. Raise teachers' salaries by 10 percent in real terms, with no-strike agreement for two years.
8. Raise teachers' salaries by 20 percent in real terms, with no-strike agreement for three years.
9. Fire half the staff in the education bureaucracy (currently 5 percent of unit costs) and establish a new highly trained and motivated bureaucracy paid on average 2.1 times previous salary.
10. Establish MIS for identifying low performing schools and inform school supervisors.
11. Decentralization: give authority to school principals to manage funds and to hire and fire teachers with local council approval, with no improvement in the capacity of the ministry of education for assessment and oversight.
12. Same as above, except the ministry's capacity for assessment and oversight is improved significantly.
13. Test a 10 percent sample of 4th graders in math and reading and provide numerical results to all 4th grade classroom teachers.
14. Test the same sample, analyze results in terms of remedial strategies, and organize local follow-up seminars for 4<sup>th</sup> grade teachers (one week).
15. Universe testing of 4th graders (same as above).
16. Provide classrooms with one standard textbook per student in math as well as in reading (200 pages each) and accompanying teacher guide, without training teachers to use them.
17. Provide same as above and also train teachers to use them (1 week per year).
18. Produce and provide to each student a set of learning materials for individualized instruction in reading and math (400 pages per student, replaced every three years).
19. Provide small library (100 books) to each classroom (renew every 5 years).
20. School feeding programs: free snack (cup of milk and bread) for everyone.
21. School feeding programs: free snack provided for 1/2 of the children, the rest pay.
22. School feeding programs: free lunch for everyone.
23. School feeding programs: free lunch for 1/2 of the children, the rest pay.

24. Yearly checkup and referral by doctor. Not including medical interventions which come from the health system.
25. Vision test by school and referral. Not including treatment.
26. Adapt and broadcast high quality preschool TV programs such as Sesame Street (250 programs). For home viewing only.
27. Mass media campaigns for parents to provide early stimulation to children ("Did you read one page last night to your children?"), 30 one-minute spots in one week.
28. One year of developmentally oriented pre-schooling for at-risk children (50 percent), at unit cost equal to one year of primary school.
29. Same as above at unit cost 0.5 times primary.
30. One year of caretaking of pre-schoolers with no educational development content (unit cost 0.5 of primary school).
31. Provide general in-service training to teachers (upgrading), 4 weeks per year (without follow-up materials for students).
32. Targeted in-service hand-on training focussing on developing classroom strategies for cooperative learning (group work) and students' active use of time (one week per year).
33. Targeted training focussing on using programmed learning materials (one week).
34. Targeted training acquainting teachers with modern curriculum objectives and strategies one week (as in Venezuela's CENAMEC program).
35. Establish a government grant program to improve the quality of pre-service training to meet the challenges of the 21st century. Government provides \$ 50 additional for every teacher trainee to teacher training institutions revising their programs to emphasize active learning, high standards, commitment and responsibility.
36. Revise curriculum in math and reading using local experts and send a copy to each teacher (without teacher in-service training and without field study of implemented curriculum).
37. Prepare and implement bilingual education curriculum, including materials, training and selection of teachers, in reading and math, 1st and 2<sup>nd</sup> grade, as well as adaptation and translation of textbooks.
38. Prepare and implement interactive radio instruction program for mathematics and Spanish and broadcast by radio to all school children with accompanying teaching/learning materials.
39. Provide one hour per week of access to computers to all primary school children at which time they study LOGO.
40. Establish a national consensus on the importance of improving basic education. Then deliver a complete learning package to schools at risk (50 percent lowest performing schools): self-learning materials, training in active and cooperative learning, hands-on workshops, community involvement, school based management, formative evaluation and systematic testing and feedback.

**Table 4**

PROTOTYPICAL COUNTRY

*Concordia*

- Population: 20 million
- Rural population: 30 percent
- Indigenous population: 10 percent
- Completion rate in primary education (six years): 60 percent
- Student teacher ratio: 29:1
- Unit cost of primary education: \$ 200
- Number of children in grades 1-6: 2 million
- Total cost of primary education system: \$ 400,000,000
- Percentage of budget going to teachers salaries: 90 percent
- Hours of schooling: 4 per day and 27 class periods of 45 minutes each per week
- Half of children have basic textbooks
- There is no assessment system in place. However a standardized test was given to a small sample at the end of sixth grade. The test was based on the official curriculum of both math and Spanish language. The average score on the test was 50 out of 100. A score of 100 would indicate that a student had mastered what the official curriculum expects him/her to know.



## The methodology and the sample

For each intervention the experts were asked to provide the following:

- a) the estimated average percentage increment in student achievement on a standardized test in mathematics and reading, given to sixth graders, with an initial score of 50 out of 100, compared to a control population which did not receive the intervention (Table 5 column A); and
- b) the probability (in percentage) of adequate implementation of the intervention, based on both technical and political considerations (Table 5 column B).

The same set of questions were provided to 30 practicing educational planners who participated in an educational planning course held at UNESCO/OREALC in Santiago, Chile, in November 1997.

The authors then estimated the following:

- c) the probable increment in annual operational unit cost from the intervention, including the annualized capital cost (Table 5 column D).

Using these estimates an index of estimated cost-effectiveness for each intervention was created. The index was calculated as follows:

- a = % of school population benefiting from the intervention
- b = if fully implemented, expected % increase in the test score of the target population
- c = % probability of full implementation of the intervention
- d = % increase in annual operational cost for the benefited population

$I$  (index) =  $b*c/d$  for the target population; for the population as a whole, the costs and impact are reduced proportionally but the value of the index remains the same (e.g.,  $I = b*c*a/d*a$ ).

The authors selected the ten world experts on the following basis:

- had articles published in professional journals;
- were widely quoted by other planners and practitioners;

- had easy access to current research findings;
- were involved in projects in several Latin American countries;
- were leaders in the analysis of education development; and
- had experience working with multilateral development agencies in the region.

A balance was sought between experts from Latin America and North America. There was a high response rate from the experts due to their abiding interest in the issues. There were no systematic differences in estimates between experts from the two regions. The fact that there were only ten experts may have an impact on the reliability of answers since one expert with an unusual predisposition could have a significant impact on the overall average. The authors have subsequently identified more experts and recommend that, in any future replication, 20 to 25 experts be asked to respond to the questionnaire.

The sample of Latin American planner/practitioners included all the participants attending the Ninth Planning Course organized by UNESCO/OREALC in Santiago, Chile, in November 1997. Most participants worked as planners or advisers to top education authorities. Their answers and opinions, therefore, are probably representative of the educational advice they provide to their national systems. At a latter stage it would be useful to have access to their educational and training background.

The “dependent variable,” as noted above, was the score on a standard test given at the end of sixth grade. This test would be similar to the math/language tests given by UNESCO/OREALC to 13 countries in 1997, in which students on average answered about 50 percent of the items correctly. The items were based on a consensus of the participating countries on the expectations of a common curriculum. In this case, criterion referenced tests expect children to score 100 percent which is what the curriculum demands. It is therefore possible, with appropriate interventions, for a large number of school children to get high scores, as was shown in the case of Cuba.

This approach has one problem. Many children drop out before sixth grade or repeat the year, especially in the poorer countries. If the measure used had been “percentage of students completing the sixth grade,” then there would have been some, but not many changes. For instance, school feeding would have had a much more significant impact on school retention than on learning, since it is assumed that school feeding encourages school attendance. Using test scores as the dependent variable works best for a school system which has many children completing six years of education (e.g., Costa Rica, Argentina). It is less relevant for those systems with high dropout rates before sixth grade (e.g., Honduras, Guatemala). But, in fact, nearly all education systems in the region are moving quickly toward six full years of education, and therefore the focus on quality is important in every country. The overall score on a sixth grade test is a simple but clear measure of current attempts to improve the quality of schooling in the region.

The target country, Concordia, is defined on the basis of the regional averages of population, educational coverage, primary enrollments, unit primary cost, student-teacher ratio, rural sector and ethnic minorities. Concordia is larger than any country in the sub-region. Nonetheless The fact that there is a common “country” for all participants helps to make a meaningful comparison of answers, but it is an artificial construct with no history or context. Cost-effectiveness will vary significantly with the number of students in the country’s education system, its current stage of educational development, and its GNP *per capita*. For example, relative costs of inputs can be significantly higher in a country where average unit costs are \$ 100 or less, compared to the regional average of \$ 200. There would also be some increased costs in smaller countries where fixed costs are high and variable costs low (e.g., sample-based assessments and distance education).

## Results

Table 5 summarizes the estimates of the ten international experts who responded to the questions on impact and probability of good implementation of interventions. The authors’ estimate of costs for each of the interventions was added to those responses, followed by the estimates of cost-effectiveness. The table presents the forty interventions in order of highest to lowest estimated cost-effectiveness.

As noted above, the authors estimated the incremental costs of each intervention and applied them to the experts’ estimates of the impact on learning and on probability of implementation. It was inappropriate to ask the experts to estimate costs since this is a technical and time-consuming question which had a “right” answer. The cost estimates are based on a typical middle-income, medium-size country in the region (e.g., “Concordia”). Annex 1 provides the reasoning behind the cost estimates, while the estimates themselves appear in Table 5.

There are many ways to summarize and draw implications from Table 5, including expected percentage increases in test scores, increases in scores taking into account implementation feasibility, and cost effectiveness. For the first, we can identify the six interventions which the experts thought would have the greatest impact on learning, if adequately implemented. These are as follows:

We can see that by far a “systems” approach providing a wide variety of interventions appears to be the one with the expected greatest impact if properly implemented. The next five most important interventions have roughly the same impact. They include assigning best teachers to first grade, decentralization combined with strengthening of central administration, paying rural teachers a significant increment in salary, providing standard textbooks and being sure to train teachers, and provision of developmentally oriented pre-schooling.

**Table 5**  
EXPERT OPINION ON COST-EFFECTIVENESS OF EDUCATIONAL INTERVENTIONS

<i>Intervention Number and Description in Order of Descending Cost-Effectiveness (For More Complete Descriptions, see Table 2)</i>	<i>A. Estimated Increase in Achievement (%)</i>	<i>B. Probability Of Adequate Implementation (%)</i>	<i>C. Probable Impact (%) [A*B]</i>	<i>D. Estimated Increase In Cost (%)</i>	<i>E. Cost-Effectiveness [C/D]</i>
2. Assign best teachers to first grade	19.8	58.0	11.5	0.0	1531.2
3. Enforce regulations on official length of school year	10.6	49.5	5.2	0.0	699.6
1. Policy not to switch classroom teachers during school year	5.0	72.0	3.6	0.0	480.0
13. Test 10 percent of 4th graders and distribute results to teachers	4.1	73.5	3.0	0.1	60.3
11. Decentralization	9.3	47.5	4.4	0.1	59.2
27. Media campaigns for parents to read to children	8.1	71.9	5.8	0.1	46.6
10. MIS for identifying low performing schools	10.2	68.0	6.9	0.3	27.7
25. Vision test by school and referral	3.2	66.0	2.1	0.1	21.1
35. Grant program (\$ 50/student) to improve pre-service teacher training	11.8	56.0	6.6	0.4	18.9
14. Test 10 percent of 4 <sup>th</sup> graders and provide remedial strategies (one week)	12.3	60.0	7.4	0.4	17.4
9. Reduce size of bureaucracy and pay higher salaries	8.9	36.0	3.2	0.3	12.9
36. Revise curriculum in math and reading, and distribute	1.9	66.9	1.3	0.1	12.7
38. Interactive instruction by radio	10.7	57.5	6.2	0.5	11.4
37. Prepare and implement bilingual education	11.7	50.6	5.9	0.5	11.2

<i>Intervention Number and Description in Order of Descending Cost-Effectiveness (For More Complete Descriptions, see Table 2)</i>	<i>A. Estimated Increase in Achievement (%)</i>	<i>B. Probability Of Adequate Implementation (%)</i>	<i>C. Probable Impact (%) [A*B]</i>	<i>D. Estimated Increase In Cost (%)</i>	<i>E. Cost-Effectiveness [C/D]</i>
15. Universal testing of 4 <sup>th</sup> graders	12.3	62.5	7.7	0.8	9.7
18. Provide learning materials for individualized instruction	16.5	72.5	12.0	1.5	8.0
26. Broadcast high quality preschool TV programs	8.2	72.4	5.9	0.8	7.9
12. Decentralization with supervision	19.4	53.5	10.4	1.3	7.8
16. Provide classrooms with standard textbooks	11.5	74.5	8.6	1.5	5.7
19. Provide small libraries to classrooms	8.5	76.5	6.5	1.4	4.7
17. Provide standard textbooks and train teachers in usage	18.4	66.0	12.1	3.8	3.2
5. Extend length of school year	8.0	83.5	6.7	2.3	3.0
32. Train teachers on developing cooperative learning	12.2	52.0	6.3	2.3	2.8
33. Train teachers on using programmed learning materials	7.6	64.0	4.9	2.3	2.2
34. Acquaint teachers with modern curriculum	7.0	64.0	4.5	2.3	2.0
40. Multiple interventions: learning packages; school-based management; training; testing	26.8	45.0	12.1	7.0	1.7
29. Developmentally oriented pre-schooling (50 percent unit cost of primary school)	13.0	54.5	7.1	4.2	1.7
28. Developmentally oriented pre-schooling (100 percent unit cost of primary school)	18.3	51.5	9.4	8.3	1.1
24. Yearly checkup and referral by doctor	4.1	61.5	2.5	2.4	1.1

<i>Intervention Number and Description in Order of Descending Cost-Effectiveness (For More Complete Descriptions, see Table 2)</i>	<i>A. Estimated Increase in Achievement (%)</i>	<i>B. Probability Of Adequate Implementation (%)</i>	<i>C. Probable Impact (%) [A*B]</i>	<i>D. Estimated Increase In Cost (%)</i>	<i>E. Cost-Effectiveness [C/D]</i>
30. Caretaking of preschoolers with no educational development	5.7	65.9	3.8	4.2	0.9
6. Pay teachers in rural schools salary increment of 50 percent	18.6	65.0	12.1	13.5	0.9
4. Extend daily schedule by one hour	17.0	67.0	11.4	15.0	0.8
7. Raise teachers salaries by 10 percent	6.3	72.5	4.6	9.0	0.5
21. School feeding programs (50 percent receive free snack)	5.1	63.0	3.2	6.8	0.5
8. Raise teachers salaries by 20 percent	10.7	74.5	8.0	18.0	0.4
20. School feeding programs (100 percent receive free snack)	5.6	74.5	4.2	13.5	0.3
31. In-service training to teachers without follow-up materials	4.1	63.5	2.6	10.0	0.3
23. School feeding programs (50 percent receive free lunch)	6.9	59.0	4.1	18.0	0.2
39. Provide one-hour access to computers	4.4	51.5	2.3	14.9	0.2
22. School feeding programs (100 percent receive free lunch)	8.1	67.5	5.5	36.0	0.2
Averages	10.3	62.8	6.5	5.1	76.9

- (A) Estimated average percentage increment in student achievement on a standardized test in mathematics and reading, given to sixth graders, with an initial score of 50 out of 100, compared to a control population which did not receive the intervention.
- (B) Probability (in percentage) of adequate implementation of the intervention, based on both technical and political considerations.
- (D) Probable increment in annual operational unit cost from the intervention including the annualized capital cost.

**Table 6**

SIX INTERVENTIONS WITH HIGHEST ESTIMATED IMPACT ON TARGET POPULATION IF FULLY IMPLEMENTED

<i>Intervention</i>	<i>Expected Increase in Test Score</i>
40. Multiple interventions: learning packages, school based management; training; testing	26.8%
2. Assign best teachers to first grade	19.8%
12. Decentralization with supervision	19.4%
6. Pay rural teachers 50% more	18.6%
17. Provide standard textbooks and train teachers in usage	18.4%
28. Developmentally oriented pre-schooling (100% of primary school cost)	18.3%

But the experts were concerned with difficulty in implementation, especially of the systems approach. Table 7 provides the expected impact multiplied by the probability of adequate implementation.

The six best interventions now include “extending the school day by one hour” and “pro-

viding individualized learning packages.” After accounting for implementation difficulties the “systems approach” is no better than providing a variety of discrete inputs. In addition pre-schooling and decentralization were considered so difficult to implement that they fell out of the best six interventions.

**Table 7**

SIX INTERVENTIONS WITH HIGHEST ESTIMATED IMPACT ON TARGET POPULATION TAKING INTO ACCOUNT IMPLEMENTATION FEASIBILITY

<i>Intervention</i>	<i>Probable Increase in Test Score</i>
17. Provide standard textbooks and train teachers in usage	12.1%
40. Multiple interventions: learning packages, schools based management; training; testing	12.1%
6. Pay rural teachers salary increment of 50 percent	12.1%
18. Provide learning materials for individualized instruction	12.0%
2. Assign best teachers to first grade	11.5%
4. Extend daily schedule by one hour	11.4%

Finally we can examine the six interventions with the highest overall cost

effectiveness index, as shown in Table 8 below:

**Table 8**  
INTERVENTIONS WITH HIGHEST EXPECTED COST-EFFECTIVENESS

<i>Intervention</i>	<i>Cost-effectiveness Index</i>
2. Assign best teachers to first grade	1531.2
3. Enforce regulations on official length of school year	699.6
1. Policy not to switch classroom teachers during school year	480.0
13. Test 10 percent of 4 <sup>th</sup> graders and distribute results to teachers	60.3
11. Decentralization (without strengthening supervision)	59.2
27. Media campaigns for parents to read to children	46.6

The interventions with the highest estimated cost effectiveness are quite different from those with the expected greatest impact, since there are a number of almost cost-less interventions which have at least some impact. The only intervention which overlaps is N° 2 –assign best teachers to first grade, which is relatively cost-less but which the experts felt would have a significant impact. Enforcing regulations on the official length is nearly cost-less, although it might be politically difficult, especially in those countries with a history of teacher strikes. Enforcing a policy of not changing teachers during the school year is also relatively cost-less but might lead to administrative problems. When a teacher leaves during the school-year it would require hiring a temporary substitute rather than transferring a teacher from another school during the year. Sample testing is very inexpensive compared to universe testing. To work the results would have to be presented in a very user-friendly way with suggestions for improvement. Finally apparently the experts felt that centralized management in the region was so “ossified” that decentralization would have a positive impact, even without strengthening

oversight and supervision, since it was also almost cost-less. Finally it appears that media campaigns are inexpensive but expected to have a significant impact.

The interventions with the lowest estimated cost-effectiveness are presented in Table 9. Clearly school feeding programs are very expensive and may have only minimal impact on learning. On the other hand they might have a greater impact on school attendance, on health, and on income distribution. Secondly, raising teachers’ salaries modestly without other elements such as increased responsibilities, are not cost-effective approaches. Finally computers at this moment do not appear to be cost effective option in primary education.

In summary the exercise confirms the following conclusions about policies with regard to educational interventions:

- Undertake interventions with a significant impact, especially those related to multiple interventions, teaching materials, and differential support for rural education, but are of moderate to high cost. In spite of their costs these interventions should be implemented because of their potentially high impact. But beware of implementation problems.

**Table 9**

INTERVENTIONS WITH LOWEST EXPECTED COST-EFFECTIVENESS

<i>Intervention</i>	<i>Cost-effectiveness Index</i>
22. School feeding programs (100% receive free lunch)	0.2
39. One hour per week access to computers %	0.2
23. School feeding programs (50% receive free lunch)	0.2
20. School feeding programs (50% receive free snack)	0.3
31. In-service training to teachers without follow-up materials	0.3
7. Raise teachers salaries by 20%	0.4

- Undertake interventions which do not cost much but have an impact and are often overlooked (e.g., enforcing school year regulations, putting good teachers in first grade).
- Some interventions are expensive and, by themselves, without ancillary activities or other objectives, are not good investments. This is especially the case of increased salaries, computers, and school feeding programs.

The Latin American planners<sup>2</sup> were much more enthusiastic than the world experts on whether a particular intervention would have an impact (on average 19 percent vs. 10 percent). Perhaps they are not conversant with the literature on the effectiveness of interventions, which tends to be very conservative. On the other hand the planners were much less enthusiastic than the experts about the probability of successful implementation (48 percent vs. 63 percent). In particular, they were less positive about interventions which require more funding. The Latin American planners estimated that each intervention would increase unit costs by an average of 14 percent, compared to the authors' estimate of 5 percent. A detailed analysis of the planners' estimates suggests that either they did not understand the questions on costs or had insufficient time to

answer them. Therefore, the planners cost estimates are not reported.

The planners' estimates of cost-effectiveness are in roughly the same order as the experts, but with some differences. The planners attribute significantly higher cost-effectiveness than the experts (more than twice as much) to decentralization (N° 11), avoiding the changing of teachers (N° 1), improved pre-service training (N° 35), revising the curriculum (N° 36), pre-schooling (N° 29 and 30), traditional in-service teacher training (N° 31), and computers (N° 39). For their part, the experts attributed a higher cost-effectiveness than the planners only to the interventions which involve reducing the bureaucracy (N° 9), pre-school television programs and mass media campaigns (N° 26 and 27), extending the school year and the school day (N° 5 and N° 4), increasing salaries for rural teachers (N° 6), and increasing salaries of teachers (N° 7 and 8).

### Conclusions and recommendations

As noted above, the "common sense" conclusions of the exercise are: undertake interventions which have a significant impact but are of moderate cost, especially those related to a systems approach, teaching materials, and pre-schooling, but beware of potential implementation difficulties of the more complex interventions; undertake interventions which do not

<sup>2</sup> For brevity the detailed estimates of the planners are not included here.



cost much but have an impact (e.g., enforcing school year regulations, putting good teachers in first grade); do not undertake large-scale expensive interventions which up to now have demonstrated low cost-effectiveness (increased salaries alone, conventional teacher training, nutrition etc.); and implement packages of interventions rather than isolated ones.

Yet, in Latin America as a whole, many projects and programs do not follow these prescriptions. There is a tendency to invest heavily in unproved approaches or to have excessive expectations of the potential impact on learning of some reforms. And simpler and cheaper approaches are often overlooked. To put it simply, planners and experts work under a large set of partially tested assumptions. The assumptions that are actually supported by empirical evidence are unfortunately few. This is especially the case for currently favored interventions, such as decentralization, testing and computers. Mistakes are costly, and it is time to review the impact of interventions, especially now that education is hailed as the key element for economic and social development and major investments are being made in the region and throughout the world.

The index is a timely tool for the sub-region, given the increasing consensus on the key role of education in economic and social success, the agreement of the 1998 Summit of Heads of State and the growing investments in education by national governments and international agencies. By making the estimated costs and impacts explicit, the presumptions made by key decision makers about what works and what doesn't work become clear. The exercise alerts policymakers to the relative value of strategies they are actually selecting, and permits them to revise what their presuppositions are. Estimating the costs of interventions, in itself, is of great value since it is rarely done systematically. These estimates can be used to assess, or at least to provide a benchmark, for estimates of the cost of project components made in various countries.

But this approach is still a poor substitute for real cost-effectiveness research. There is now a great opportunity in Latin America to undertake applied research, since nearly all countries in the sub-region have initiated national assessments administered to samples or the universe of students which eventually will permit countries to identify which interventions have an impact on learning (see Rojas and Esquivel for a detailed summary of recent experience). All of these countries now have the opportunity to engage in applied research to identify what best works to improve learning.

Not only education practitioners, but also national political and business leaders, need to define their priorities in education. Perhaps, with this simple tool to explicitly define assumptions, national decision makers can begin to understand what works and what does not work in education, and help create a stronger social consensus on education investments. The exercise is also an excellent teaching device for training policymakers and educational planners because it forces them to clarify their own thinking. To work best, small groups could be assigned about five of the interventions. They would work together and then come up with conclusions which would be presented to a plenary session.

In short, the results of this survey are as follows:

- an index (admittedly crude) of cost-effectiveness of interventions for Latin America has been established;
- the opinions of international experts have been compared with practicing educational planners in Latin America and can be used as a benchmark by national experts;
- inconsistencies, ambiguities, and contradictions in the opinions about cost-effectiveness have been identified;
- agendas for the traditional time-consuming cost-effectiveness research which should eventually be the basis for objective decisions on education development have been identified; and, finally
- an effective teaching and consensus-building tool has been devised.

## ANNEXES

**Table A1**  
ESTIMATED UNIT COST INCREASES FOR EACH INTERVENTION\*

<i>Intervention</i>	<i>% increase in unit cost</i>	<i>Explanation for cost calculation</i>
1.	0.01	Nominal cost of \$ 30,000.
2.	0.01	Nominal cost of \$ 30,000 for information and control.
3.	0.01	Nominal cost of \$ 30,000 for providing information and insuring enforcement.
4.	15.0	A 16.7% increase in hours, equivalent to a 16.7% increase in salaries (90% of total cost). 16.7% times 90% is 15%, or \$ 30 per student.
5.	2.3	One extra week of work is based on above and in results in \$ 4.50.
6.	13.5	30% of students are in rural areas. For this group, teacher salary increase is 50% of 90% of unit cost (0.45 times \$ 200) or \$ 90 per student in the target group. For the system, cost is \$ 27 per student. Total cost is \$ 90x 600,000 divided by 400 million).
7.	9.0	Increase would be \$ 18 per student.
8.	18.0	Increase would be \$ 36 per student.
9.	0.3	Bureaucrats are 5% of the total budget, or \$ 20 million, which is \$ 10 per student. Cost is cut by 1/2 to \$ 10 million by reducing number of bureaucrats by one-half and increased by \$ 10.5 million for better salaries. Increase result is \$ 500,000. Can also be calculated directly on unit cost basis. Current cost is \$ 10. If bureaucracy halved, unit cost is \$ 5; if cost is increased 2.1 times, new unit cost is \$ 10.5. Total unit cost increase is \$ .50.
10.	0.3	MIS estimated at \$ 1,000,000 or \$ 0.50 per student.
11.	0.1	Since there is no improvement in MOE capacity for oversight and assessment, the cost is estimated at only US\$ 300,000 or \$ 0.15 for booklet for principals and PTAs plus diffusion and an information system.
12.	1.3	To improve flow of information and capacity for regulation and oversight, cost is about \$ 3 million to strengthen testing, statistics and financial management. Testing is \$ 5 per student, 330,000 students in 4th grade, plus about \$ 1,000,000 for a MIS, and miscellaneous costs of \$ 300,000. Total unit cost is \$ 2.65.
13.	0.1	Approximately \$ 5 per student for adequate testing. However, only 10% of fourth graders are tested. 4 <sup>th</sup> graders are 1/6 of the total, therefore, we test 1.67% of all students. For these students, the cost is \$ 5; for the system the cost is \$ 0.08. Distributing the results to 4th grade teachers adds \$ 0.02 resulting in \$ 0.10.

\* Total cost of primary system is US\$ 400 million and unit cost is US\$ 200.

<i>Intervention</i>	<i>% increase in unit cost</i>	<i>Explanation for cost calculation</i>
14.	0.4	The cost of the follow up seminar is the same as one week of teacher's time which comes to \$ 4.50, provided to all fourth grade teachers. Unit cost is \$ 4.50/6 or \$ 0.75 plus the \$ 0.10 for testing which gives \$ 0.85 for the system.
15.	0.8	Includes one week of training. Universal testing of all fourth graders is conducted, for cost of 1/6 of \$ 5.00 or \$ 0.83, plus \$ 0.75 of training. Total cost is \$ 1.58.
16.	1.5	Should state that two textbooks are provided (Spanish and math). Assumes \$ 1.50 for each book for total of \$ 3 per student.
17.	3.8	Teacher salary is assumed to be 90% of \$ 200 unit cost, which is \$ 180 per student. Divided by 40, one week of teachers time comes to \$ 4.50 per student. If we add this to the \$ 3 per student above, we arrive at \$ 7.50.
18.	1.5	Cost of printing is \$ 8.75 (four textbooks) and cost of preparation is 500,000 which is \$ .25 per student. Overall cost is \$ 9. Books last for three years leading to \$ 3 cost.
19.	1.4	Assume each book costs \$ 2 (in bulk), so library costs \$ 400. Cost over five years is \$ 80. With 29 students per classroom unit cost is \$ 2.75.
20.	13.5	Estimate milk at \$ 0.10 and bread at \$ 0.05. Total is \$ 0.15x180 days or \$ 27 per student.
21.	6.8	Same as above but given to half the students; hence, unit cost is \$ 13.50.
22.	36.0	Lunch is estimated at \$ .40 per day; therefore, cost is \$ 0.40x180 or \$ 72 per student.
23.	18.0	Half of above or \$ 36.
24.	2.4	Detection only. Does not include medical interventions which come from the health system. One doctor can check 28 students a day or, over 180 days, about 5,000 per year. Doctor's salary is \$ 24,000 so the unit cost is \$ 4.80.
25.	0.1	Detection only, but nearsighted students can sit up front. Can be done by teacher if materials and some extra money are provided. Cost is \$ 0.20 per student.
26.	0.8	250 television programs are provided for home viewing only. Estimate absolute cost at \$ 3 million, assuming high quality and purchase of Sesame Street programs.
27.	0.1	Estimate overall at \$ 500,000 for preparation and purchase of TV time, which is \$ 0.25 per student.
28.	8.3	Cost is \$ 200 for 50% of students pro-rated over 6 years which comes to \$ 33.33 for the target group and \$ 16.67 per student for the system as a whole.
29.	4.2	Half the cost. Results in \$ 16.67 for the target group and \$ 8.34 per student for the system.

<i>Intervention</i>	<i>% increase in unit cost</i>	<i>Explanation for cost calculation</i>
30.	4.2	Provided to 50% of students. Cost is same as above.
31.	10.0	Four full weeks of teacher upgrading is estimated at 4 times \$ 4.50 which comes to \$ 18. Add cost of course preparation, material, and travel resulting in approximately \$ 20.
32.	2.3	Training for one week is estimated at \$ 4.50 as above.
33.	2.3	Same as above.
34.	2.3	Same as above.
35.	0.4	Grant program is estimated at \$ 200 per graduate (5x4) who teach for 10 years so the cost is \$ 20 per year per teacher. Since there are 29 students per teacher, the annual cost is 20/29 or \$ 0.70. (Another approach would be that each year 7,000 new teachers are trained to replace 10% of teaching force of 70,000. 7,000 new teachers times \$ 200 results in \$ 1,400,000 or a \$ 0.70 unit cost).
36.	0.1	Not based on detailed research but rather on contracting local experts and distributing curriculum guide. Cost estimated at \$ 400,000 mainly for local experts and a very low cost of distributing curriculum guide. (\$ 1 each guide, 70,000 copies)
37.	0.5	Bilingual curriculum has a low fixed cost of about \$ 100,000 to contract master bilingual teachers. This is \$ 0.05 per student reached (10% of students). Books have to be provided and teachers trained for at least one week per year. Therefore, the variable cost for 10% of the population is \$ 4.50 for one week of training plus three books at \$ 2 each costing \$ 6; total is about \$ 10.55 for indigenous students. Cost to the entire system is 10% or \$ 1.05.
38.	0.5	\$ 500,000 for preparation which is \$ 0.25 per student, without using foreign technical assistance (case of Venezuela). Cost of radio (\$ 29 per set per class) is about \$ 1 per student but it lasts three years so it is \$ 0.33. Materials are about \$ .50. Total unit cost is \$ 1.08.
39.	14.9	\$ 2,000 for the computer plus \$ 100 for other physical modifications. Computer lasts four years; therefore, computer cost is \$ 525 a year. Computer serves 30 students at one hour per week (30 hours per week) or \$ 16.50 per student. Add a full time teacher working 27 hours per week (once in the week a class works with two teachers for one period). Teacher cost results in 1/27 of 90% of unit cost, or \$ 6.67. Maintenance for computer is \$ 200 per year or another \$ 6.67 per student. Total is \$ 29.84 per student. Cost could be reduced significantly if outdated computers are purchased for \$ 1000, which would also reduce security and maintenance costs by 1/2. Also could hire a technician rather than a teacher at 2/3 cost. Total cost could be reduced to \$ 8.25 plus \$ 5 and \$ 3.33 or \$ 16.58; this, however, may not be feasible.
40.	7.0	Cost is based on above calculations as follows: textbooks \$ 3; self-help learning materials \$ 3; one week training \$ 4.50; local school management \$ 2.65; evaluation system \$ 0.85. Total cost is \$ 14.

**Table A2**

LATINOAMERICAN PLANNERS' OPINION ON COST-EFFECTIVENESS OF EDUCATIONAL INTERVENTIONS

<i>Intervention Number and Description in Order of Descending Cost-Effectiveness (For more complete descriptions, see Annex)</i>	<i>A. Estimated Increase in Academic Achievement (%)</i>	<i>B. Probability of Adequate Implementation (%)</i>	<i>C. Probable Impact (%) [A*B]</i>	<i>D. Estimated Increase in Cost (%)</i>	<i>E. Cost-Effectiveness [C/D]</i>
2. Assign best teachers to first grade	38.2	44.8	17.1	0.01	1711.4
1. Policy not to switch classroom teacher during school year	25.6	42.3	10.8	0.01	1081.9
3. Enforce regulations on official length of school year	18.0	42.2	7.6	0.01	759.7
11. Decentralization	26.4	53.6	7.6	0.1	141.7
27. Mass media campaigns in order to motivate parents to read to children	12.4	45.7	5.7	0.1	56.6
13. Test 10 percent of 4 <sup>th</sup> graders and distribute results among teachers	9.3	53.5	5.0	0.1	37.1
35. Grant program (US\$ 50/pupil) to improve teacher training	28.1	53.6	15.1	0.4	37.7
25. Vision test by school and referral	7.3	51.1	3.7	0.1	37.1
36. Revise curriculum in math and reading and distribute	6.3	58.0	3.6	0.1	36.3
10. MIS for identifying low performing schools	20.8	50.3	10.4	0.3	34.8
14. Test 10 percent of 4 <sup>th</sup> graders and provide remedial strategies (one week)	19.0	56.8	10.8	0.4	27.0
12. Supervised Decentralization	33.8	56.6	19.1	1.0	19.1
15. Universe testing of 4 <sup>th</sup> graders	23.9	51.6	12.3	1.0	12.3

<i>Intervention Number and Description in Order of Descending Cost-Effectiveness (For more complete descriptions, see Annex)</i>	<i>A. Estimated Increase in Academic Achievement (%)</i>	<i>B. Probability of Adequate Implementation (%)</i>	<i>C. Probable Impact (%) [A*B]</i>	<i>D. Estimated Increase in Cost (%)</i>	<i>E. Cost-Effectiveness [C/D]</i>
37. Prepare and implement a bilingual curriculum	21.9	51.3	11.2	1.0	11.2
9. Reduce size of bureaucracy and pay higher salaries	10.5	27.1	2.9	0.3	9.5
19. Provide small libraries to classrooms	15.9	49.6	7.9	1.0	7.9
38. Interactive instruction by radio programs	15.9	43.4	6.9	1.0	6.9
18. Provide learning material for individualized instruction	24.2	53.5	13.0	2.0	6.5
32. Train teachers on developing methods of cooperative learning	19.9	58.9	11.7	2.0	5.9
16. Provide classrooms with standard textbook	17.6	52.8	9.3	2.0	4.7
34. Acquaint teachers with modern curriculum	13.9	59.1	8.2	2.0	4.1
29. Developmentally oriented pre-schooling (50 percent unit cost of primary school)	29.7	54.4	16.1	4.0	4.0
33. Train teachers on using programmed learning materials	13.4	57.4	7.7	2.0	3.9
26. Broadcast high quality TV programs for preschoolers	8.6	42.7	3.7	1.0	3.7
17. Provide standard textbooks and train teachers in usage	25.2	57.6	14.5	4.0	3.6
40. Multiple interventions: learning packages; school-based management; training; testing	38.5	50.6	19.5	7.0	2.8
5. Extend length of school year	12.1	40.2	4.8	2.0	2.4
28. Developmentally oriented pre-schooling (100 percent unit cost of primary school)	32.2	53.4	17.2	8.0	2.1

<i>Intervention Number and Description in Order of Descending Cost-Effectiveness (For more complete descriptions, see Annex)</i>	<i>A. Estimated Increase in Academic Achievement (%)</i>	<i>B. Probability of Adequate Implementation (%)</i>	<i>C. Probable Impact (%) [A*B]</i>	<i>D. Estimated Increase in Cost (%)</i>	<i>E. Cost-Effectiveness [C/D]</i>
24. Yearly checkup and referral by doctor	8.6	48.3	4.2	2.0	2.1
30. Caretaking of preschoolers with no educational development content	14.1	53.5	7.6	4.0	1.9
21. School feeding programs (50 percent receive free snack)	14.0	45.9	6.4	7.0	0.9
31. In - service training to teachers without follow-up materials	13.2	59.8	7.9	10.0	0.8
4. Extended daily schedule by one hour	26.8	40.6	10.9	15.0	0.7
6. Pay teachers in rural schools salary increment of 50 percent	22.1	38.5	8.5	14.0	0.6
20. School feeding programs (100 percent receive free snack)	13.5	56.5	7.6	14.0	0.5
7. Raise teachers salaries by 10 percent	11.8	30.6	3.6	9.0	0.4
39. Provide one-hour of access to computers	14.9	40.1	6.0	15.0	0.4
23. School feeding programs (50 percent receive free lunch)	13.7	27.8	3.8	18.0	0.3
8. Raise teachers salaries by 20 percent	13.7	27.8	3.8	18.0	0.2
22. School feeding programs (100 percent receive free lunch)	16.6	42.8	7.1	36.0	0.2
Averages	18.8	48.5	9.2	5.1	102.3

(A) Estimated average percentage increment in student achievement on a standardized test in mathematics and reading, given to sixth graders, with an initial score of 50 out of 100, compared to a control population which did not receive the intervention.

(B) Probability (in percentage) of adequate implementation of the intervention, based on both technical and political considerations.

(D) Probable increment in annual operational unit cost from the intervention including the annualized capital cost.

**Table A2B**

## ESTIMATED INDEX OF COST-EFFECTIVENESS - EXPERTS VERSUS PLANNERS

Intervention Number and Description in Order of Descending Cost-Effectiveness (For more complete descriptions, see Annex)	Cost-Effectiveness		
	A. Experts' estimations	B. Planners' estimations	C. Difference (A-B)
2. Assign best teachers to first grade	1531.2	2281.9	-750.7
3. Enforce regulations on official length of school year	699.6	1012.9	-313.3
1. Policy not to switch classroom teachers during school year	480.0	1442.5	-962.5
13. Test 10 percent of 4th graders and distribute results to teachers	60.3	100.0	-39.7
11. Decentralization	59.2	188.9	-129.7
27. Media campaigns for parents to read to children	46.6	45.3	1.3
10. MIS for identifying low performing schools	27.7	41.8	-14.0
25. Vision test by school and referral	21.1	37.1	-16.0
35. Grant program (\$ 50/student) to improve pre-service teacher training	18.9	43.1	-24.2
14. Test 10 percent of 4 <sup>th</sup> graders and provide remedial strategies (one week)	17.4	25.4	-8.1
9. Reduce size of bureaucracy and pay higher salaries	12.9	11.4	1.5
36. Revise curriculum in math and reading, and distribute	12.7	36.3	-23.6
38. Interactive instruction by radio	11.4	12.8	-1.4
37. Prepare and implement bilingual education	11.2	21.4	-10.2
15. Universal testing of 4 <sup>th</sup> graders	9.7	15.6	-5.9
18. Provide learning materials for individualized instruction	8.0	8.6	-0.6
26. Broadcast high quality preschool TV programs	7.9	4.9	3.0
12. Decentralization with supervision	7.8	14.4	-6.6
16. Provide classrooms with standard textbooks	5.7	6.2	-0.5



<i>Intervention Number and Description in Order of Descending Cost-Effectiveness (For more complete descriptions, see Annex)</i>	<i>Cost-Effectiveness</i>		
	<i>A. Experts' estimations</i>	<i>B. Planners' estimations</i>	<i>C. Difference (A-B)</i>
19. Provide small libraries to classrooms	4.7	5.8	-1.0
17. Provide standard textbooks and train teachers in usage	3.2	3.9	-0.6
5. Extend length of school year	3.0	2.2	0.8
32. Train teachers on developing cooperative learning	2.8	5.2	-2.4
33. Train teachers on using programmed learning materials	2.2	3.4	-1.3
34. Acquaint teachers with modern curriculum	2.0	3.7	-1.7
40. Multiple interventions: learning packages; school-based management; training; testing	1.7	2.8	-1.1
29. Developmentally oriented pre-schooling (50 percent unit cost of primary school)	1.7	3.9	-2.2
28. Developmentally oriented pre-schooling (100 percent unit cost of primary school)	1.1	2.1	-0.9
24. Yearly checkup and referral by doctor	1.1	1.7	-0.7
30. Caretaking of preschoolers with no educational development	0.9	1.9	-0.9
6. Pay teachers in rural schools salary increment of 50 percent	0.9	0.6	0.3
4. Extend daily schedule by one hour	0.8	0.7	0.0
7. Raise teachers salaries by 10 percent	0.5	0.4	0.1
21. School feeding programs (50 percent receive free snack)	0.5	1.0	-0.5
8. Raise teachers salaries by 20 percent	0.4	0.2	0.2
20. School feeding programs (100 percent receive free snack)	0.3	0.6	-0.3
31. In-service training to teachers without follow-up materials	0.3	0.8	-0.5
23. School feeding programs (50 percent receive free lunch)	0.2	0.3	-0.1
39. Provide one-hour access to computers	0.2	0.4	-0.2
22. School feeding programs (100 percent receive free lunch)	0.2	0.2	0.0

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