

The evaluation of media programmes and products

Formative and participatory research

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ABSTRACT

The primary aim of this article is to contribute to the delineation of a field of empirical research, not yet fully developed in Italy, that focuses on the evaluation of media programmes and products. Particularly the article touches three fundamental aspects: the cultural meaning of evaluation, which aspects to study, and the opportunity to promote, together with the evaluative research on programmes and products that have already been conducted, formative and participatory research aimed at evaluation of future programmes and products through collaborative processes between producers and users.

Keywords: media programmes and products; evaluation; formative research; participatory research.

About the cultural meaning of evaluation

Italian researchers have long been interested in the evaluation of media programmes and products, although to a lesser extent than other international researchers. In our context the researchers have predominantly employed a theoretical and speculative approach — that can be defined as *critical evaluation* — shared by the semiotic, philosophical and pedagogical perspective in the study of media (Galliani, 2007).

This article addresses empirical research aimed at evaluating quality and efficacy of media programmes and products, which in Italian context is normally dealt with sporadically.

It is not by chance that only a few years ago, one of the most important Italian semiologists provocatively labelled as «heretical» his «idea of quantifying the quality of media», wondering if it was possible to attain «a construction by approximation of a quantitative model of quality», in this case mainly referring to television (Bettetini, 2003, p. 59, p. 64)¹.

Bettetini's proposal was provocative because it called into question a specific entity — the State broadcaster, more accustomed to calculating the *share* rather than investigating the quality — highlighting a key aspect for development in this area of investigation: the role of producers, whose contribution is necessary for the improvement of evaluative research.

The difficulty of the evaluation of programmes and products in many ways consists in the amplexness of media artefacts and in the breadth of the quality category — segmented in relation to media, genres, audience and so on (Lasagni & Richeri, 1996; Sartori, 1993) — and also in «judgment systems» adopted by the «court judges» (Colombo, 1994). Moreover, the implementation of evaluation assumes very different values depending on whether the objectives and operational criteria are purely academic or are coming from a joint elaboration or a negotiation with the specialists in the field, which, in theory, should feel the need to ensure the quality and/or efficacy of production or distribution. From this perspective, one of the crucial questions of evaluative research on the media primarily consists in the involvement of the producers of media “objects”, referring to an enormous range of diverse programmes and products.

But there is another category of actors whose participation is essential for growth of evaluative research on the media: the “consumers”, also considering the modification of the relationship between them and the cultural industry and of their role — from «push» to «pull»- determined by the digital «convergence/divergence» (Ferri, 2004, p. 58, p. 14) that pervades our society.

Evaluative research, then, faces a challenge not only from the conceptual breadth of the media environment — an «ecosystem», «an integrated and inseparable combination of biotic communities and communicative habitats, an unitary structure, in which both physical and psychological relationships intermingle» (Galliani, 1993, p. 127) — but also from the complexity of the communication models instantiated in the same ecosystem.

¹ This is a proposal that Gianfranco Bettetini presented to *Consulta della Qualità (Council for Quality)* of RAI-Radiotelevisione Italiana, then chaired by Jader Jacobelli, and that is entitled «Heretical hypothesis for a quantification of the media quality (particularly of the television)», to which he refers in the second chapter of a his own volume (Bettetini, 2003).

In this landscape, the deep cultural meaning that evaluative research may take is to encourage an «educationally orientated»² production and is related to the recognition of the inextricable link between communication and education (Galliani, 1998), as the media of communication always «educate» even when they «dis-educate» (Bettetini, 2003, p. 62)³. To witness the significance of this view you can draw on some “commissioned” research, on the television schedule (Bertolini, 2002), or on television programmes broadcasted by RAI — such as *L'albero azzurro* (*The blue tree*) (Farné & Gherardi, 1994), *Melevisione* (*Melevision*) (Coggi, 2002; 2003), *Ep-pur si muove!* (*And yet it moves!*) (Messina, 2005) — conducted with the «official» advice of «pedagogically qualified» bodies, as a rule quoted in the «closing credits» (Bertolini, 1994, p. 103).

Elements of evaluation

If television programmes are the ground on which evaluative research mainly converges, it begins to manifest an interest in the products generated by new media, albeit lukewarm and with considerable delay compared to the efforts in other areas of investigation on them, such as learning.

In the constructive spirit of this article, I tried to summarise, in Figure 1, *areas, parameters, objects, phases* and *types* to which the evaluative research on the media refers, also using the data from a survey developed by me in February 2008⁴ in order

² With «educationally oriented» production, here I refer not so much to programmes or products turned to offer curricular contents in the form of entertainment, i.e. edu-tainment dealt later on, but rather to programmes or products made with awareness of their formative potential (Messina, 2005).

³ The strict link between education and communication is enclosed in the Greek etymon of *communicate*, in its meaning to inform someone involving him/her, joining to a community, and, therefore, activating a «dynamic process», which implies an intentional act by a transmitter, a «response», whatever that is, by the recipient, a finalisation of the process itself to take «social relationships», which involve the whole person (Galliani, 1998). In this sense, it seems difficult that the *educational* can be entrusted only to specific programmes or products and to escape the obligation to consider the educative — or dis-educative — potential of the media in their complex. The media, as communication media, inevitably educate, even if this is not in their declared intentions (Galliani & Messina, 2003).

⁴ The survey was conducted in February 2008, sending, via email, a request for co-operation to 161 Italian scholars who deal with media and education, also with the intention of launching a thematic registry of *research on evaluation of media programmes and products*. The scholars were identified by using a previous review of literature produced in Italian universities on the relationship between media, education and training (Galliani, 2007; Galliani & Messina, 2006). The scholars were asked, with reference to evaluative research on media programming or programmes or products (old and new media), to compile a file in which it was required to indicate: Author(s) of research; institution/company which carried out the search; when the research was initiated and concluded; research title and objects. They also were required to provide a brief summary of research (objectives, procedure, results) and to indicate whether the report was published (book, journal), or available (site, archive), or not available, leaving space for comments/notes. The responses to my request for co-operation were not numerically exciting: there were only 24 replies, whose only 11 were “productive”. In respect of the remaining 13, some promised the arrival of a file never arrived; in some I was informed of publications generally related to the media, available through national or international bibliographical archives. To the 11 productive replies I added my one, and, whereas three scholars have sent two cards, the answers are total of 15. Presumably, the low number of answers may be ascribed to the fact that my request was referring to empirical research, and we know that, in our context, there are not many scholars interested in a such kind of research.

to compose an update of studies conducted in the field in our country⁵ and to find any reports of “commissioned” research that often exist as unpublished works (Cohen, 2001) and are unlikely to be found through canonical bibliographical channels⁶.

In Figure 1 elements of research both proposed and already carried out are ranged in an “animated” way to emphasize the difficulty of clearly demarcating the categorical boundaries among them and clearly attributing them to either of the two overriding areas identified: the *edu-entertainment* and the *educational-instructional*.

Here I will take into consideration not the individual elements, but some wider issues, which should be useful in defining the research field.

The first issue concerns the *area* of investigation that I wanted to call (*edu-entertainment*), putting the “edu” in brackets to try to problematize the view, widespread especially in the field of education, that the radius of action in this area could, or should be confined to object designed, besides the “canonical” ones, to inform and to have a cultural function; for example and referring to Tv, programmes such as *Quark* or *La grande storia (The great history)*, leaving aside fiction or variety, or, going on the web, contents posted on MySpace⁷. The question that arises is whether this view is consistent with the multidisciplinary approach advocated in this journal⁸ and with the axiom of the educative/dis-educative media potential, whatever “object” we consider.

Another key question concerns the *parameters* that should guide evaluative research — *quality* and *efficacy* — and that affect both areas⁹, raising several issues:

⁵ In this second paragraph of the article I preferred, for “economical” reasons, to refer mainly to the scientific production of Italian researchers. I will dedicate, in the next numbers of this journal, a specific review of international literature, which instead I “necessarily” will touch in the third paragraph.

⁶ I am referring both to research aimed at assessing programmes — for example, my research on a food education programme “commissioned” by *Veneto Agricoltura*, which was after published in the version of final report (Messina, 2007a) — and to research designed to survey judgements of programmes by consumers (for example, Ottaviano, 2002); in this case, a research carried out for the *Autorità per le Garanzie nelle Comunicazioni (Authority for Guarantees in Communication)*.

⁷ In the research, the dichotomy between *entertainment* and *education* reserves the former term to programmes or products that raise pleasure, sympathy, fun and so on (Tannenbaum, 1980) — less studied among the “effects” of the media (Bryant & Miron, 2002). The latter term refers to «programmes of both formal and informal education» (Singhal & Rogers, 1999, p. 10), in this last case considering their positive aspects, namely that such programmes have the potential «to develop skills aimed at a particular purpose, by strengthening the mental, moral or physical abilities of individual» (Singhal & Rogers, 1999, p. 10). This means a trend now almost half a century to push production to adopt strategies of “edu-tainment”, “info-tainment”, “enter-education”, more and more focused, in the case of production for children, on the development of curricular skills or on taking positive values and, in general, dealing with relevant social themes.

⁸ See, in this respect, the Editorial of Luciano Galliani in this number of *REM-Research on Education and Media*. Regarding the multidisciplinary approach, I think we need only mention as for semiologists and communication sociologists the pure entertainment is “one’s daily bread”.

⁹ Even if the parameter *efficacy*, unlike the omnipresent *quality*, is usually favoured in the educational-instructional area, actually it is also important in the entertainment area; just think Art. 3 of the contract of service 2007-2009 of the RAI: «Qualità dell’offerta e valore pubblico» (*Offer quality and public value*) (http://www.comunicazioni.it/binary/min_comunicazioni/televisione_rai/contratto_servizio_5_aprile_2007.pdf), where, in addition to prescribing indications to measure the quality of programming, it also reaffirms the need to monitor the formative and educational efficacy of the company — from which derives a project aimed at establishing «a model that defines the field of meaning as in the category of quality and transform it into an operational process functional to a measure» (Sangiorgi et al., 2007,

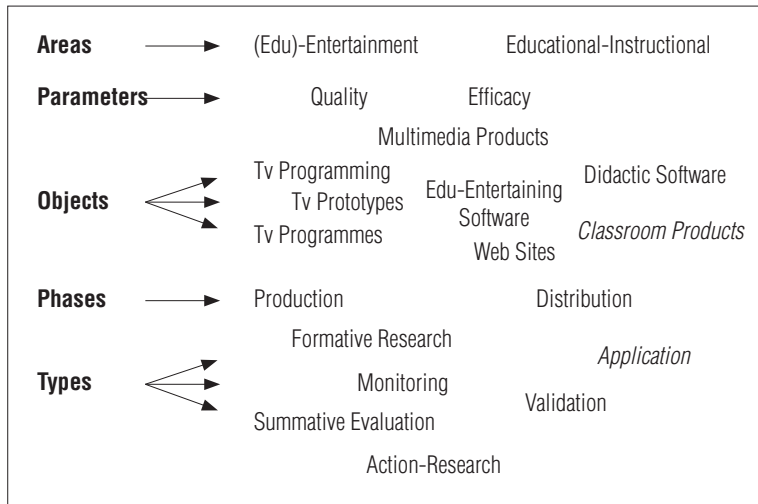


Figure 1 Areas, parameters, objects, phases and types of evaluative research on media.

the exhaustiveness of these two parameters compared to the wide variety of objects/media; the explanation of what the parameters contain (Bourlot et al., 2002)¹⁰; their characterization in relation to different media; the risk of automatically connecting them to a “metrological calibration”¹¹, while research in this area, because of its recency and complexity, primarily should benefit from exploratory qualitative investigations.

Considering the *objects* of evaluation, as I have mentioned above, traditional media are privileged¹²: *Tv programming* (Bettetini, 2003; Losito, 2002), *Tv prototypes* (Messina et al., 2008; Personeni et al., 2008), single *Tv programme* (Coggi, 2000,

p. 30). I think that Gianfranco Bettetini could be pleased that after about 10 years since his proposal we are trying to approach to “measuring” of quality.

¹⁰ The classification of parameters varies in respect to media and actors covered. For example, in relation to the Tv and quality, Bourlot and colleagues (2002) distinguish between technical-linguistic, aesthetics, mimetic-metonymic, institutional quality of the apparatus, of the service, of the relationships; always referring to this medium and the quality, different classifications are proposed depending on the actors involved, for example, parents or experts (Nikken & Van Der Voort, 1999), or children (Pereira, 2005); for web sites, alongside usability, quality of content, aesthetics, and interactivity increasingly becomes “qualitative” parameters (De Angeli, Sutcliffe & Hartmann, 2006), and so on. We should also consider that trade media programmes and products, as such, cannot escape to the market laws, related to progressive changes of the concept of quality, in its various components, that the researchers should take into account when want co-operate with the producing company and verify the quality of what it produces, taking into account, for example, fitness for use — and we could add “fitness for target” — and adequacy of the realised products with the objectives (Conti & De Risi, 2001).

¹¹ This risk in the «heretic» proposal of Bettetini is mentioned at the beginning of this paper.

¹² The “traditional”, referred to television, is in quotation marks to underscore how this medium, in progressive transformation and now “portable”, maintains a strong centrality into the system of the media (Scaglioni & Sfardini, 2008) and, referring to children and youth, shows a growing vitality with, today, 22 “targeted” channels: the Kid. Tv (see, at this proposal, the article written by Scaglioni on *Corriere della Sera*, 09-17-2008, p. 9).

2002, 2003; Parola & Trincherò, 2006a), also presenting research on multimedia products — that can be understood as results of «digital divergence» (Ferri, 2004) and as «works-to-many-media» (Parascandolo, 2000) — on *web sites* and on *edu-entertaining software*. It must be said that, even at international level, research on these objects — for example, video games — relate more to issues of art (Bittanti, 2008)¹³, their influence on attitudes and behaviours of children and young people, primarily related to violence (Cicchirillo & Chory-Assad, 2005, Funk et al., 2003), or to learning (Oliver & Pelletier, 2006), or to training (Watson, 2007), also considering their expansion rate towards the instructional (Cangià, 2003; Limone, 2006; Miglino & Di Ferdinando, 2007)¹⁴. Similarly the case for *web sites*, mainly evaluated for usability and their communicative potential (Cantoni, Di Blas & Bolchini, 2003; Lazzari, s.d.; Polillo, 2004; Mich & Franch, 2000; Martelli, 2003), whereas to a lesser extent for the expectations of «homo ludens» (Huizinga, 1939), which for example carries YouTube, in search of «freedom», «play», «self-expression» (Silva & Dix, 2007).

Quite different is the matter about the *didactic software* that involves another area, media and learning¹⁵, especially when evaluation is primarily designed to ascertain/verify, through application, the software functionality/utility with respect to learning (Antonietti & Cantoia, 2000; 2003; Carbotti, s.d.). On this question in our context there is a long tradition of research aimed at evaluating, together with the efficacy, the «significance» (Galliani, 1983) or the didactic quality of technological devices (Costa & Gerosa, 1999)¹⁶.

For overall educational research on media it might be useful the draft of a repertoire of objects, since their proliferation and mingling, and one of the important issues that they raise concerns the demarcation of the boundaries of our investigation field, that is exemplified in Figure 1 with *classroom products*, which I think could be included in educational-instructional area when they leave the classroom, real or virtual, removing from teaching to arrive at public events, such as festivals¹⁷, and so

¹³ Amongst other things, in this case, the research takes the characterisation of *critical evaluation*.

¹⁴ See, for example and among the various conferences in the field, the proceedings of the annual conferences of *Future Play*, which dedicates a session to *educational* (<http://portalparts.acm.org/1330000/1328202/fm/frontmatter.pdf>).

¹⁵ I refer to SIREM section: *Media and learning*.

¹⁶ In this respect, see also and for example the «Project for the quality of educational multimedia resources — Evaluation of educational software», which ended in 2007, developed by MIUR (Ministry of Education, University and Research) with the co-operation of a committee of experts (<http://www.indire.it/software>); see also Montedoro & Infante (2003).

¹⁷ In this respect, we can mention: *Ciak Junior*, designed by the Alconi Group, in Treviso, that from the 1989 involves the children in the lower secondary school and primary school in the implementation of short films (<http://www.alconi.it/ciak/index.aspx?sez=3&lang=&title=home%20ciak%20junior>); *Sottodiciotto Film-festival*, in Turin, where are presented the audio-visual products made by students, from infancy to the upper secondary, made at school and also in the extracurricular contexts (<http://www.sottodiciottofilmfestival.it/>); *Future Film Kids*, in Bologna, with the laboratories of production for kids (<http://www.futurefilmfestival.org/it/chisiamo/future-FILM-kids/>); *Associazione Cinema Ragazzi*, in Pisa, which collects the 30th legacy of the *Biennale del Cinema dei Ragazzi*, with its reviews of cinema, video and in the last years of multimedia products, realised by children (<http://www.cineragazzi.it/xvi.htm>); *PinAC*, in Rezzato, “gallery” opened recently to “electronic brushes” and to animation (<http://www.pinac.it>); *Kids For Kids Festival*, in Naples, which annually presents the films for and by the children (<http://www.kidsforkidsfestival.org/>).

becoming “autonomous” and “independent”. It is true that the products — results — of media education require assessment (Magro, 2007; Parola & Trincherò, 2006b; Parola et al., 2007), but considered in this perspective they should be included, strictly speaking, in another context: that one of didactic research, where the assessment of products made during the educational practices in the network and delivered through platforms should also be included (Galliani & Costa, 2003)¹⁸.

As regard the question of field boundaries, we must also consider the “media use”, which certainly implies an evaluation of some kind of enjoyed object, but in the manner in which it is normally studied it could be more appropriately placed in «cultural consumption» (De Sanctis, s.d.)¹⁹, also when it relates to the «perceived quality», usually understood as «appreciation» (Valkenburg & Janssen, 1999), unless the aim is to investigate the dimensions of the quality construct (Losito, 2002)²⁰.

With respect to the *phases* of evaluation, *production* and *distribution*, which seem to adequately cover the inquiry field, and the *types* of evaluation, if the *application* (also shown in italics in Figure 1) may revive the problems of area boundaries, given its tendency towards learning (e.g., Antonietti & Cantoia, 2000), the more relevant question I would suggest concerns the absence of a evaluative perspective, except for “formative” research (Messina, 2007b)²¹, related to the pre-production and production. Indeed, *validation* (Messina, 2007a), *monitoring*, *summative evaluation* (Coggi, 2002; 2003) and *action research* (Parola & Trincherò, 2006a) are conducted on programmes and products that have already been realized, providing, at best, «mechanisms of users’ feedback». In this case the most promising trend is the attempt to create a «common ground of exchange» or, in other words, a social «co-design», characterized by the convergence or aggregation of judgements on the basis of «common criteria» (Trincherò, 2006, pp. 85-86). This is one of the most systematic attempts to try to «better define the quality of products — translating it into indicators related to various aspects: technical components, elements of enjoyment, educational features, outcomes of learning» (Coggi, 2006, p. 13) — and to put users, educators and producers in “dialogue”. Anyhow, such an approach still connotes the evaluation as a *retroactive* function and not, as would be desirable, as *proactive*.

¹⁸ Networked educational practices are increasingly making problematic the distinction between *product* and *process*, making plausible that the process itself constitutes a product; I am referring, in this case, to the “documentation” of experience, where a training path becomes itself a useful product (e.g., De Rossi, 2007; Petrucco, 2007).

¹⁹ Also in this case, there is a specific section SIREM: *Analysis of the media consumption*.

²⁰ I refer to the research of Losito on the «perceived quality», carried out on the basis of assumption, in reference to the Tv, but extensible to the media in general, that «the definition of television quality and the initiatives to implement it in the programming should refer to the public, to its expectations, to its needs assessed for that they really are» (Losito, 2002, p. 47).

²¹ This type of research is shown here in quotation marks because the works related to it, by myself and my research group presented as “formative research” (Messina et al., 2008; Personeni et al., 2008), are based on it, but do not respect canonically all phases. These works are essentially about pre-production.

Research Perspectives

Preliminarily it is necessary to clarify that what is referred to in the following is commercial media production²² and that the proposals here presented are addressed to promote research aimed at evaluating «the development of objects», that Rivoltella includes in «pragmatic research», stressing how this type of research, together the «evaluative research» for the purpose of «optimisation» in Italy is «relatively new» (Rivoltella, 2005, pp. 37-38; 2006).

At this point it is necessary to refer to the international literature and in particular to two related approaches: *formative research* (Palmer, 1974), also known as *formative evaluation* (Flagg, 1990)²³, and *participatory research*, with particular reference to *participatory design methods* (Druin et al., 1999). Such two approaches in my opinion are the most promising for the development of the evaluation of media programmes and products.

Formative research, following the terminology of Scriven (1961), or formative evaluation, is clearly distinct from «summative research» (Palmer, 1974, p. 303) or «summative evaluation» (Flagg, 1990, p. 6) that concerns a «follow-up test» to determine «the effects of new products or practices when they are already in effective use» (Palmer, 1974, p. 303). Formative research, developed through co-operation between media communication companies and researchers, aims to make “better” the programmes and products, starting from the early stages of product development and increasing the likelihood that the product reaches the ultimate objective it was conceived for. In this case the term *research or evaluation* relates to the «systematic collection of information in order to guide the design choices and improve the product», while the term *formative* indicates that «the information is collected while the product is being formed so that effective revisions can be made» (Flagg, 1990, pp. 1-2).

Here, I choose a compromise formula, which consists of using the syntagm *formative research* to denote the study perspective, as a whole, and *formative evaluation* to denote the phases of evaluation.

The models that describe formative research are different and the terminology used to define the phases is not unique, although conceptually similar; here it is preferable to use a model, which comprehends four phases of developing a product and, in

²² Taking into account the paradigm of the convergence: «If the digital revolution paradigm presumed that new media would displace old media, the emerging convergence paradigm assumes that old and new media will interact in even more complex ways» (Jenkins, 2006, p. 6). This interaction is extensively discussed by Ferri (2004), whose provocative statement of the «end of media» does not tend to declare their “death”, but to illustrate the changes produced by this phenomenon.

²³ *Formative research* and *formative evaluation* are syntagms used with similar meanings in literature, although choosing one or another leads scholars to engage in providing the necessary justifications for choice, which obviously differ (e.g., Flagg, 1990, pp. 3-4).

parallel, four phases of evaluation (Table 1), including the needs assessment, which is not always the case²⁴ and that, in my opinion, is essential.

After having identified the target, the first phase of development — *planning* — consists in outlining objectives, content, context of use of a programme or a product, and parallelly in ascertaining their correspondence to the needs of the target (*needs assessment*), which is usually executed through a *front-end-analysis*.

The second phase of development — *design* — corresponds to the pre-production and consists in the elaboration of the so-called «writer’s notebook» (Palmer, 1974, p. 311), namely detailing the objectives, content, characteristics of the target, and the “design” of the programme or product, for example, drafting the screenplay and/or storyboard. Formative evaluation (*pre-production formative evaluation*), at this stage, consists in the gathering of information about the target: interests, beliefs, knowledge, habits, which may be accompanied by detecting “answers” for similar products or programmes already in existence (Mielke, 1983), in order to “adjust” them before the production.

In the third phase of development — *production* — when it comes to implementing the programme or product, the formative evaluation (*production formative evaluation*) is to recognize its quality and/or efficacy, using for example a pilot study, a prototype or another “piece” is deemed appropriate to consider the object in full, or aspects of the object considered complex, difficult, risky, and so on²⁵, in order to determine any weaknesses and to correct them before the final composition.

The last phase of programme and product development — *implementation* — consists in a “controlled launch” of the finished product or programme to an appropriate target group and the evaluation stage (*formative evaluation of implementation*) con-

	Phases of programme/product development	Phases of evaluation
1	Planning	Needs assessment
2	Design	Pre-production formative evaluation
3	Production	Production formative evaluation
4	Implementation	Implementation formative evaluation
		Summative evaluation

Table 1 The development and evaluation phases of a program or a product. (adapted from Flagg, 1990, p. 4, pp. 33-45)

²⁴ Not only the *need assessment* is not always covered by research design, but even, for some of the scholars, it coincides with «formative research», that becomes confined in the process of collecting initial information preliminarily to design (Ströh & Leonard, 1999, p. 4).

²⁵ For example, in research conducted by our group we used a video-storyboard specially realised, that was prefiguring a episode of a cartoon to test any complexity in understanding the difference between fantasy and reality that could give the mixed technique (animation and live action) adopted by the producers (Messina et al., 2008).

sists in check its efficacy in conditions as similar as possible to routine use, taking into account that the possibility of influence at this point is minimal, also considering matters of cost.

Once the programme or product is launched it is possible to examine its impact on the public by a *summative evaluation*, or «summative evaluation research» (Palmer, 1974, p. 310), which can be conducted, as normally it occurs, regardless of formative research and that can certainly provide improvement, but with respect to future products, such as a series, where it can assume a «formative function» (Palmer, 1974, p. 311), using data collected for subsequent adjustments to the series.

Usually formative research on media is associated with edu-entertainment — also pure entertainment (Cohen, 2001) — and in particular with *Sesame Street*²⁶ (Palmer, 1974; 1981); in fact the direction taken by the *Children's Television Workshop* has progressively marked the role of formative research on television but it has also branched out in the development of different products, including the instructional ones (Sanders & Cunningham, 1973), affecting several media, including the interactive media (Fisch & Truglio, 2001), video games (Watson, 2007), or the design of virtual learning environments (Chen, 2007), and finding wide applications in advertising and in public communication (Atkin & Freimuth, 1989; Moriarty & Rohe, 2004).

I believe that this perspective, if one really wants to affect the media environment, should be promoted and enhanced through the involvement of large and small production companies and that the current configuration of the media requires a broadening of research staff including, in addition to producers and different experts, the “consumers”, as it happens in *participatory research*, based on the assumption of reducing the gap between research and real-life activities or between researcher and «researched» (Foth & Axup, 2006).

As regard consumers, participatory research increasingly seeks to involve children and young people, considering them as independent individuals with their own strong opinions, needs, preferences, and differences related to their age — those involved are also of pre-school age (Clark, 2005) — to different race, ethnicity, and special needs.

The participatory research I refer to here is inherent in *participatory design* (Schuler & Namioka, 1993)²⁷, but particularly it concerns attempts to develop and refine

²⁶ *Sesame Street*, the television programme aimed to pleasantly propose literacy curricular content, represents a pioneering start-up of joint research, which began in 1967 by a group of producers, designers, researchers, pedagogists, psychologists, musicians, that opened the way to the construct of *educational entertainment*. See in this regard, the report of thirty years of research edited by Fisch & Truglio (2001).

²⁷ Among the methods of participatory design, that lead to *user-centered design* of Norman and Draper (1986), are also covered: the *interaction design* (Nakakoji, Yamamoto & Aoki, 2002) and the *learner-centered design* (Soloway, Guzdial & Hay, 1994). Widely documented use of these methods can be found in proceedings of the conferences IDC-*Interaction Design and Children*, annually carried out from 2003 (<http://www.interaction-design.org/references/conferences/>).

new methods able to give voice to the children in the processes of *development* and *evaluation* of technologies (Druin et al., 1999).

Even if the old technology is not disregarded (Fish, 2004), the primary object of research is centred on technological innovation (e.g., software, video games, on-line games, mobile phones, simulations, “smart” materials, authoring/programming tools) and on the impact they have on the lives of teenagers: at school, at home and in public places.

The role of children and teenagers in this kind of research is very different compared to traditional evaluative research, and in this respect I would recall a model (Druin, 2002) that shows how their influence on the final product increases in relation to the degree of involvement in the production cycle (Figure 2).

When children are simply *user* they do not have any influence on the development process of a product, because they come into contact with the product already built. When children are involved as *testers* they are required to comment on the prototypes/demo or to try/test the products. Children who act as *informants* have greater involvement in the evaluation of a product, because they become stakeholders in each of stages of the production. Finally, in the role of *design partners*, «the children are considered as stakeholders throughout the design process of a technology. As a partner, children contribute to the process through methods that are appropriate both for them and for the process itself» (Druin, 2002, p. 3).

Involving the participation of children — as well as that one of adults — clarifies the conceptual inseparability of elaboration, development and evaluation processes of a product, as shown by studies that found that when children provide «options» at same time they adopt «criteria» to evaluate the same options that they are producing (Sluis-Thiescheffer, Bekker & Eggen, 2007)²⁸.

It is not possible to examine in great detail this kind of research²⁹ — it is referred to here mainly to emphasize the importance to involve the “consumer” in formative

²⁸ Such research makes reference to studies on «design rationale», in particular those of MacLean *et al.* (1996) and of Olson *et al.* (1996). The first study, aimed at representing reasoning and argumentation which justify the design of a specific artefact — a kind of “protocol” of the design — proposes a model centred on four elements: questions, options, criteria, and assessment. Each design is based on key questions and the options provide the possible answers to these questions. To choose among the various possible options, it is necessary to make a series of considerations, to support one or the other, guided by reasoning, that are organised through criteria, which correspond to properties/qualities of an artefact and to the requirements that must possess — moreover, the clear explanation of the criteria allows to clearly define the objectives of a project. The evaluation lies in verifying if a certain option satisfies or less a particular criterion (MacLean *et al.*, 1996, pp. 58-63). The study of Olson *et al.* (1996), in line with the previous one, and based on the analysis of the record of different sessions of design carried out by different team on different projects, shows that in all cases taken into account the 40% of the time is used in the production of «alternative», namely solutions or proposals on object in course of design, and in contemporary evaluation of the ideas themselves through «criteria»: «reasons, arguments, or opinions which evaluate an alternative solution or proposal» (Olson *et al.*, 1996, p. 222).

²⁹ Amongst other things, the size of the field is widening if we consider the use of participatory design also in the classroom, for example for the generation of ideas (Moraveji *et al.* 2007), as well as outside of school (e.g., Read, Horton & Mazzone, 2005), as, for example, the museum (Taxén, 2004), with implications which now cover the pedagogical theorisation (Resnick, 2007). See also the projects of *Lifelong Kindergarten* (<http://ilk.media.mit.edu/projects.php>).

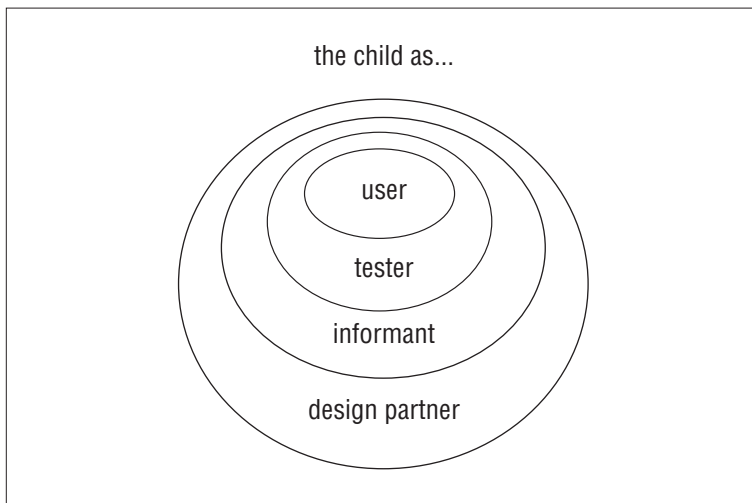


Figure 2 The four roles that children may have in the design of new technologies. (source: Druin, 2002, p. 3)

research starting from the design of a programme³⁰ or product — on which I have only a few points.

The first point concerns the assumption that each of the roles covered by the children can «shape the design process of technologies and impact on the technologies created» (Druin, 2002, p. 3). In this sense, notwithstanding the legality of “employing” children in the roles of *user*, *tester* and *informant*, for the purposes of research, their involvement as *partner* in formative research supports the “proactive” function of evaluation and perhaps could limit retrospective “saving” investigations, since quality and efficacy — the educative range — of a media programme or product, for whatever medium, are beginning to be configured at the «conceptual» stage (Cohen, 2001).

As regard the second point, the involvement in formative and participatory research of consumer, now more and more referred to as «prosumer» (Fabris, 2008; Toffler, 1981), it is almost an imperative for the media communication industry to assure — to employ Ferri’s powerful metaphor — «the quality and clarity of the water» that flows in the digital «aqueduct», or, in other terms, to offer «qualitatively tailored to the needs of the chosen target» and «effective» contents (Ferri, 2004, pp. 68-69)³¹.

³⁰ Here I am referring to both technologies or interactive design environments, such as *Scratch* (<http://ilk.media.mit.edu/projects.php?id=783>), and inter-media and cross-media programmes (Ballico, 2008; Ferri, 2004; Parascandolo, 2000).

³¹ The industrial production is well aware about, since it often involves users — for example, Nintendo — to test products in the various passages of production, also receiving ameliorative suggestions, or it invites users to produce, such

In addition, formative research and participatory design have not only “commercial” purposes but, providing a perspective of research on *cognitive procedures* (creative and evaluative), on *attitudes*, on *cognitive development*, also serves to understand the “weight” covered by the media on such psychological aspects (e.g., Joly, 2007); which should be a strong incentive to promote it.

Finally, *si licet*, the conjugation of the two perspectives — participatory formative research — could provide academic research, in the eyes of the producers, with a “inviting appeal”, that could encourage the *funding*³² of the research process, and I do not think that this term is “scandalous”, given the grey era in which we live.

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as, for example, the Lego with the community created around *Mindstorm* (<http://mindstorms.lego.com/community/default.aspx>).

³² I think that the collaborative spirit of SIREM may encourage the creation of a group of multidisciplinary research that could promote activities which needs sophisticated laboratories to study/evaluate media programmes and products.

* All references to online resources in this paper and in the bibliography were verified at September 2008.

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