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Das Buch gibt auch einen Einblick in die Themen und Projekte, die in der AG Medienpädagogik an der Johannes Gutenberg-Universität Mainz bearbeitet werden – denn dieses Buch ist zugleich eine Festschrift für den Erziehungswissenschaftler und Medienpädagogen Stefan Aufenanger anlässlich seines 60. Geburtstags.

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Digital Literacy as a Category of Media Competence and Literacy

An Analytical Approach of Concepts and Presuppositions for Supporting Media Competence at School

Alivisos Sofos

Abstract

This contribution approaches Digital Literacy through the analysis of the concepts of "Competence" and "Literacy". Digital Literacy is a focus category of Media Literacy. The term "Media" refers to a holistic approach to media, from classic (1st generation) to New Media (4th generation).

The first part focuses on the various uses of the term "Literacy" based on bibliographic research on pedagogy which reveals numerous generalized approaches to the term, such as "Reading Literacy", "Information Literacy", "ICT Literacy", "and Photography Literacy" and others, where it is used as a connecting term. Each of these approaches specifies actions, abilities and aptitudes which students and citizens must acquire in the Information and Knowledge Society regarding media categories and services.

The second part brings forward approaches to the concept "media literacy" from theoretic research and educational organizations. The different comparative state positions have been systematized under five different perspectives. The main focus is the conceptual framework where all these approaches are based on and on the objectification of the partial aims of digital literacy.

The third part examines the potential inclusion of media-educational objectives in teaching as learning processes. Furthermore, it deals with ideas on specific methods for action oriented work with media in general and the electronic media in particular.

1 Introduction

The international discussion in the field of education about the knowledge, the aptitudes and the attitudes of students nowadays include concepts that are used synonymously, hyperonymously, partly opposite and are being used as basic categories, e.g. "Literacy", "Reading Literacy", "Mathematics Literacy", "Scientific Literacy", "Information Literacy", "Media-Literate", "Competence", "Media Literacy",

"ICT Literacy", "Digital Literacy", "Media Literacy Training", "Audiovisual Literacy", "Visual Literacy", "Photography Literacy", "Computer Literacy", "Functional Literacy", "ICT Alphabetisierung", "Media Competence", "ICT Competencies".

In the context of daily apperception the mentioned concepts signal a common range of abilities that students and in general the people of the knowledge society and information society should possess. An analytical investigation into the concepts ascertains differentiations concerning the theoretical background, the kind of approach, the educational content, the specific Media focused on, the partial dimensions they integrate and their rationalisation.

The ascertainment that the adoption of concepts depends on scientific approaches and traditions is interesting. Thus, in the Anglo-Saxon countries the term "Media Literacy" is used, in the francophone countries the term "Médienkompetenz" is used and the term "Digital competence" is used in the Scandinavian countries describing everything that has to do with the digital media (Krumsvik 2008). However, the two basic concepts that are used are "Competence" and "Literacy" as connecting terms in order to connote a system of knowledge, abilities and attitudes regarding the utilization of the Media. This system of aptitudes and abilities constitutes a *cultural capital* (Buckingham 2005, Sofos 2009) and is different for each individual because it is configured within the social, political and economic framework an individual lives in. Thus, the social environment affects the potential to use media, understanding of the world and participation in the areas of everyday life.

At this point the fact should be noted that the concept of "Literacy" has been a source of conflict as to its appropriateness. The disagreements that have been expressed are related to the fact that as a concept it is very general and inaccurate. In particular, Schäffer notes that the connection of "Literacy" which is historically related to abilities and aptitudes in specific media, namely the written language, with other scientific fields as mathematics and science, as well as special means and types of presentation, e.g., picture, movies, computers and internet, is problematic, because it is based on a metaphor which hinders the exact demarcation between the different media, the forms of communication and the particular abilities and aptitudes users should develop (Schäffer 2006). In some cases the concept of "Literacy" is approached as functional literacy which is being conceived through countable aptitudes. Sting also denotes that the concept of "Literacy" with a "neutral and undifferentiated" conception as a starting point lies groundless, especially if one reflects on the complexity of the written language and its labored liaison with media, cultural and social fields of action (Sting 2005, S. 30). Moreover, if one considers the special practices and distinctions (visual, audio, audiovisual) within electronic and digital environments which will be broadened in the future (haptic, olfactory), it becomes

obvious that the conception of Literacy which is traditionally directed to the written language is a concept without content. Specific literacy like the "aesthetic" one (Dunker 2005) which among others includes as partial categories the "coloring" the "envisaging", the "visual" the "manipulation of image or the "cinema language" with the particular camera shots, the montage and others, as well as specific experiences (among other harassments in social networks) knowledge and roles cannot become a work task of a written language literacy. New Media create new functions, for example digital substitution of natural objects, for example digital Board, and have the tendency to "vanish" from the user's perception, for example processors in domestic appliances. All of the above constitute new phenomena which the classic concept of "Literacy" is unable to approach.

2 Conceptual Approach

The following passage presents the two basic concepts of "Competence" and "Literacy" and the term "Digital Literacy" concisely. The first concept is deep because it contains essential features that are common to all kindred things to which it refers: "Competence" is regarded as a phylogenetic and ontogenetic value which characterizes humans, on the basis of which they are able to differentiate, to produce new ideas and solutions and to reflect on everything they have elaborated. The second concept is wide because it contains multitude sub-ordered concepts for example "Photography Literacy", "Visual Literacy", "Audio-visual Literacy", "Computer Literacy", "ICT Literacy", "Digital Literacy". Literacy relates to basic abilities and aptitudes like reading, writing and comprehension that have been mastered in educational settings and that constitute the basic condition for the recognition of symbolic signs and the understanding of information. Despite the different approaches to the concepts outlined below, both are related in general to the hermeneutic ability of the individual which is conceptualised as an anthropological dimension (Bollnow 1959). In relation to the utilization of media in different social areas, the two concepts-approaches contribute to the delimitation of a system of knowledge, abilities, aptitudes, capabilities and attitudes.

2.1 From Competence to Media Competence.

The notion of competence relates to the "communication aptitude" which constitutes the basic "equipment" (Gehlen 1993) of man upon which social interactions rest: Virtual realities are built upon symbolic interactions that take the form of communicative events or actions. Habermas connects "competence" with

the theory of Universalpragmatik and denotes that human communication is a priori founded on the discourse upon objectives and can be conceptualized as communicative action (Habermas 1981). In the educational area Baacke, who refers to Habermas's approach, delineates "media competence" as a subcategory of "communicative competence" (Baacke 1980). From this point of view, communicative competence, media competence and competence in social action constitute dimensions of an anthropological picture: *man as a competent creature*. (Baacke 1999, S. 32).

The historical structure of communicative competence is formed actively before the beginning of mother tongue learning through diverse expressive forms and expands to technological forms of expression e.g. use and development of multimedia virtual environments. Although it is an anthropogenic characteristic it must be noted that communicative competence constitutes in parallel an object of active learning and pursuit, which is further developed. Fertile areas for this kind of development are the family, the kindergarten, the school as well as the overall personal experiences from everyday life. Thus, communicative competence implies that man attains "subjective reality" through speech/language and other forms of expression and that it can divert initial ability through social action. According to Oevermann, man as social subject is "self constructed" i.e. he constructs personal reality and generates cognitive structures (Oevermann 1979). This approach of "interactive constructivism", which is also validated by neurobiology (Spitzer 2002), implies that the preconditions for the production of interactions and abilities on one hand pre-exist outside the subject but on the other hand activate and stimulate the subject's construction attainments and abilities. The subject's basic attainment rests precisely in the internal elaboration procedure, that is, in the interpretation and discussion/elaboration of stimulus from its environment. This presupposes that the subject should possess diverse communicative codes (along with the ones that refer to New Media) in order to be able to acknowledge that there is "room" for diversity in interpretations and alternative suggestions.

Therefore, "media competence" is part of a whole, that is, part of a general "communicative competence" focusing on forms of expression based on technology means of any type (analytical/comprehensive dimension of media competence). This means that the term refers to the primary, first generation (symbolic communication) as well as to the secondary, second generation (book, newspaper), to the third generation media (radio, telephone, television) and finally to interactive media for example computers and the internet.

The term media competence is used widely in the francophone scientific area. It is considered to be a basic qualification for everybody playing an active role in the process of teaching and learning. The use of the term in question,

in numerous contexts and the concomitant attempts to define it make the fact obvious that the scientific discourse acknowledges central importance and function to the term of media competence. The term also enjoys a foremost position in research and instruction, in the configuration of theories, in the analysis of practice experiences as well as within the development of models and the planning of media educational and/or instructional activities and it can be characterized as a category.

The term media competence is used *pro rata* of the term critical competence, reflection competence etc. However, the point of reference is not media but the process operation of competence which refers to media (Kron/Sofos 2003). What is regarded as "media competence" is the ability of an individual, in relation to the particular sociocultural framework and to a system of diverse knowledge, abilities, aptitudes and tendencies to use media in order to achieve aims, to fulfill wishes and interests in different social areas of everyday life.

The same abilities basically constitute emanation from the cultural and social action of man. For this exact reason they are directly depended on the communication and the life world of man (Baacke 1999, S. 32). Furthermore, the term of media competence pertains to two dimensions: 1. with the product namely the result of an action for example the formative or artistic ability which refers to the visible side of an action ability, and 2. to the process of an action or an activity for example research or critical competence which refers to the invisible side of the subject's ability to apperceive probable activities with media. In the context of a pragmatic approach to media competence in education these two dimensions are considered as distinctive, the first being observable attainment (Performance) and the second being a non observable ability for example conception or internal action (Competence), which in educational practice are frequently complementary, forming the two sides of the same coin. (Kron/Sofos 2003).

The specific abilities which are related to specializations, which are usually countable and are accompanied by specific criteria, constitute the functional dimension of media competence. In the present educational discussion reference is made all the more to the measurement of specific abilities that take the form of aptitudes.

2.2 From "Literacy" to "Media Literacy"

Historically, the concept of "Literacy" in English meant familiarity with literature that is, an individual who is involved with literature and is well educated. Since the 19th century the concept has been referred to abilities and aptitudes in reading and writing texts while, as the reference below makes evident, the

breadth of the definition's interpretation becomes broader and differentiated in particular fields and in different languages.

For example, in French, *alphabétisme* and *analphabétisme* are the terms generally used to designate 'literacy' and 'illiteracy', while *alphabétisation* refers to 'literacy learning' and is used in France to denote the process of literacy acquisition.

Until the early 1980s, the terms *analphabétisme* (illiteracy) and *alphabétisation* (literacy learning) were used to refer to what was perceived to be a literacy problem of immigrants" (OECD 2008, S. 10).

Even though the concept of "Literacy" is deemed to criticism as put forward, it is frequently used on an institutional level and within educational policy texts in the context of community and information. However, it is probably used for strategic reasons as "lingua franca" for the communication between scientists it presents with diverse nuances and is connected to specific criteria and measurement reports of Media literacy, for example the research titled "Current trends and approaches to media literacy in Europe" which was delivered by the group of experts for the E.U. (Media Literacy Expert Group 2007).

The International Adult Literacy Survey (IALS) of OECD defines "Literacy" as "the ability to understand and employ printed information in daily activities, at home, at work and in the community" (OECD 2000, OECD 2008). This approach implies a pragmatic approach. With the printed texts as benchmarks, the hermeneutic ability is stressed as well as the application of the new knowledge in labour, everyday and private situations.

The concept of "Literacy" is similarly approached by UNESCO as "the ability to identify, understand, interpret, create, communicate and compute using printed and written materials associated with varying contexts. Literacy involves a continuum of learning in enabling individuals to achieve their goals, develop their knowledge and potentials, and participate fully in the community and wider society." (UNESCO 2008, S. 25).

It appears here that the concept of "Literacy" is not confined to the aptitudes of reading and writing. This could be approached as "functional literacy" or "alphabetism" which signifies the ability to apply aptitudes that have been acquired in the context of the process of socialization and education. Therefore, the concept of "Literacy" implies the interpretation, the signification and the discussion of notions and values in a particular social context.

While the concept of "Literacy" was traditionally related to a language code i.e. the aptitude of reading, writing and understanding in relation to the printed media, the effort to expand the width of the concept in all forms of mediated communication with electronic and digital media is observed. Specifically the

approach of "Media Literacy Expert Group" that holds an advisory role in the European Union in subjects related to "Media Literacy" and the elaboration of propositions for respective activities defines the term as follows:

"Media Literacy may be defined as the ability to access, analyse and evaluate the power of images, sounds and messages that everyone is now being confronted with on a daily basis and which is an important part of the contemporary culture; as well as to communicate competently using media available, on a personal basis. Media literacy relates to all media, including television and film, radio and recorded music, print media, the Internet and other new digital communication technologies" (Media Literacy Expert Group 2007, S. 13).

This definition broadens the approach of "Literacy" towards the following:

The concept of "Literacy" is regarded as a cultural construction which demarcates abilities and aptitudes in relation to reading, writing and understanding, while it is historically related to the written language and the printed media. The development of electronic media formed alterations and introduced specifications to the "Literacy" i.e. "audiovisual Literacy" which are related with "reading", "understanding" and rarely-because of high cost of production- with "writing", for example cinema texts. As a superjacent term it includes advanced and specialized categories of abilities and aptitudes which are related to the understanding, the reading and the writing (from understanding to creative aptitudes), different forms of media presentations (text, visual, audiovisual) in a convergent framework. This way it operates as an umbrella term which includes aptitudes and categories of literacy, like reading and writing literacy, audiovisual literacy (often referred to as image or visual literacy) and digital or information literacy.

As far as it concerns media as the second connective element, it is noted that these are considered as cultural objectification of communicative processes and includes four dimensions: 1. the tools of communication, i.e. language code, picture, 2. materials, i.e. paper, ink, netting, hard- and software, 3. the social structures and organizations i.e. publishers, providers, and 4. the media contents which proceed from the correlation of these dimensions. (Schmidt 2003, Sofos 2005a). "Media Literacy" refers to the four dimensions mentioned above.

Furthermore, considering the architecture of media one can notice that the term "Media Literacy" refers to a framework of a holistic approach in all Media: *First generation* (which do not need supporting technology, (having to do with face to face communication), *Second generation*, which presupposes supporting technology only from the side of the author of media contents, that is newspapers, books, journals, *Third generation*, (which promotes the linear communication and presupposes supporting technology from the side of the receptor of media contents), *Fourth generation* (which operates based on decentralized

nets, allows two-way and interactional communication and presupposes supporting technology from both sides) (Fausstich 1995).

As far as it concerns the application and utilization field of "Media Literacy", it is ascertained that it pertains to all the activities of everyday life (education, labour, information) and integrates contemporary civilization, regardless of its particular nature (image, sound, video etc.). Under this point of view the aptitudes around "Media Literacy" pertain to the *familiarization* with all the existing media (from newspapers to virtual realities), the *access* and the *active use* (digital interactive television, use of search engine, participation in social nets, using media for pleasure, information, learning), with understanding and analysis, with the evaluation and the critical approach (understanding of economy and ownership of the Media, awareness on the problems of copyright and safe navigation) and with the application and the creative production or the experimentation (for expression, promotion of ideas and the collaboration with all the Media).

Within the framework of the "Media Literacy" approach, the discussion around the term "Multiliteracy" is comprehensible. This term focuses on both, on the different forms of presentation, which is text types, e.g. television, internet text and the fact that there is no one static "literacy" but different practices and events of literacy. (Cope/ Kalantzis 2000). Consequently the broadened approach of "Media Literacy" is understood as social validation of the hermeneutic abilities and application aptitudes of the users and conceives "literacy" as an ability of social action and participation in social processes.

Comparably to the terms "mathematics literacy", "scientific literacy", "media literacy" can be conceptualized as an aggregation of knowledge, abilities, aptitudes and tendencies connected to the terms of education and erudition. (Xochellis 1986, Kössler 1989). The first term stresses the mental and spiritual refinement of the individual in relation to media and education. The term media education is conceived as the acquisition of social and ethical attitudes through education and the acquisition of knowledge which people use as a benchmark in historical and social reality they live in order to assess, to adopt a stand and act along with and through the media. Under this point of view media education is connected to the individual's media biography and media identity.

2.3 Digital Literacy as a separate/specific Category of Media Literacy and Media Competence.

"Digital Literacy" as a term constitutes a determination which befits with the technological and social developments and is related to all the media which can be utilized in digital form. The new term is founded on the phenomenon of multiplication, of the mechanical and digital technology approximation, the globalization and the digitization of data, a fact which is especially profound in advanced societies. Using Mc Luhan's prophetic approaches as a point of reference, who approached Media using as a starting point the connection between the form and the different operations the media take on through the different nuances (Mc Luhan 2001), it is estimated here that the digital Media constitute a new type of media, which probably cannot be considered as Mass Media, (Maletzke 1998). According to Manovich while the Mass Media promote the public, technology mediated, indirect and one-way communication, the New Media respectively allow the interpersonal, interactional, direct and two-way communication, calling to question the validity of the Mass Media definition, especially when the New Media do not transport information (primordial material), like the newspaper, the radio or the television but often use the classic Media as primordial material and allow access to users and diverse forms of development that were not feasible by the classic Media (Maletzke 1998, Manovich 2001). This development dictates diverse abilities and aptitudes from the user e.g. "non linear reading", the double activation of the user as a "reader-author" of messages; i.e. the Web 2.0 (Kron/Sofos 2003), the ability to navigate in three-dimensional textual and multimedia structures.

Under the angle of the mentioned approach the term "Digital Literacy" refers to diverse forms of work and function of media. The hermeneutic attitude of the individual, the reflective observation of use and the critical analysis of the information, that is the cognitive, the emotional and active interactions which constitute a general anthropological substratum, remain common elements. Hence, "Digital Literacy" can be approached as follows:

"Digital Literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others; in the context of specific life situations; in order to enable constructive social action; and to reflect upon this process" (Martin 2006).

According to the mentioned definition, "Digital Literacy" is approached as a system of specific abilities and aptitudes of man in a given society which is characterised by mediated communication and technological advance and refers to

different areas of social life formal education, informal lifelong education, work, leisure time, aspects of everyday life). The stress on the convention «in the context of specific life situations» denotes that the quality of "Digital Literacy" may vary according to the specific life situation of an individual and that it is a lifelong ongoing process which develops along with the advance of the individual's life situation. Consequently, "Digital Literacy" is broader than basic and formal ICT education and includes basic features/elements that derive from different forms of literacy like visual literacy, information literacy, media literacy. The specific knowledge, abilities and aptitudes mentioned in the definition have a pragmatic character because they are used in particular contexts for the organization and effectuation of individual projects, the accomplishment of individual goals and the development of one's personality in general. According to Rafferty and Steyaert these can be determined in three categories of aptitudes: 1. the functional-technological 2. the structural and 3. the strategic (Rafferty/Steyaert 2007).

The functional-technological aptitudes are necessary in order to manipulate New Media. These are not confined to simple psychomotor aptitudes i.e. mouse movement, but expand to more complicated procedures which require cognitive processes in order to either use specific services or look for information.

The structural are connected to the way of organizing and presenting information. They constitute an essential qualification in order for someone to orient towards a multimodal environment; to detect; to acknowledge; to interpret and to edit information. Alike the efficient utilization of a book or an encyclopedia, the user should utilize the content, the word index, in the digital Media one should be able to recognize the structures, e.g. hypertext, navigational schemes, RSS, and develop them appropriately.

The strategic refers exactly to the quality and the effective use of contents and of the way of using the digital Media. That is they are connected to the reflective and the critical attitude of an individual on the application strategies using as a criterion the performance degree of the goals that had been set. It is evident that abilities and aptitudes of this kind refer to the classic Media.

The mentioned categories of aptitudes are considered important on an institutional and political level because they compose the individual cultural and educational capital of every modern citizen in the 21st century since the digital media of communication and information constitute basic factors in education, production, development and labour. From this point of view, it is possible to state that the potential of participation and active use of digital media constitutes a criterion for the current social exclusion (Sofos 2009).

3 Concepts of Media Competence, Media Education and Media Literacy

Using the second level of analysis as a reference in which pedagogical dialogue takes place and which refers to the way of systematization and diversification of the partial aspects of "Media Competence", one can examine the suggestions of certain experts (Baacke 1980, Aufenanger 1999, Tulodzicki 1997, Buckingham 2003), as well as those coming from educational institutions (ISTE 2007, National Curriculum for England 1999, UNESCO 2008). According to Tulodzicki and to the analysis of the suggestions studied in this research, it is assumed that the classification of these concepts can be processed on the basis of five approaches (Tulodzicki 2007).

3.1 Classification according to the Fields of "Media Competence"

According to this classification, points of reference are the thematical areas and the fields which facilitate an overview of "Media" in a more general way, taking into consideration, in the same time, its complexity. The suggested approaches have an exemplary character, resulting in the confinement of a big number of criteria (Standards) in this classification.

On the other hand, though, the fact that educators face the challenge of transforming their actions in a media-instructional level and that they are demanded to contribute to the development of school infrastructure in order to enhance media education, act as restricting factors. Examples of such suggestions consist:

Baacke taking into account the socio-ecological approach points that the diversified media environment shapes a complex reality, which students have to face (Baacke 1980). Given the fact that they can not face this reality, based on their current experience, 'media competence' is perceived as a central test of growth, that is, as an ability of successful existence in the world. From this point of view the notion of "media competence" is considered as an overlying category of "education" and "literacy". "Media competence" extends beyond the institutional organised action and thinking and it includes cultural fields, where an individual can evolve. Therefore, "competence" is seen as an anthropological dimension which characterizes human kind. According to Baacke, "Media competence" spreads to the following fields (Baacke 1999):

1. Media criticism: a) analytic, b) reflexive, c) ethical
2. Media knowledge: a) informative, b) instrumental
3. Media use: a) receptive b) interactive, c) offering,
4. Media creation: a) innovative, b) creative

Tulodzicki focuses on the integration of media in the teaching of different cognitive subjects according to the recommendations of KMK on the promotion of Media education in primary and secondary education (Tulodzicki 1997). In total, he proposes five categories of media education:

1. Selection and use of media
2. Comprehension and assessment of media productions
3. Production and distribution of media
4. Identification and processing of media influence
5. Identifying and evaluating the conditions of media production

Makrakis in a socio-critical approach uses the term alphabetism and refers to four dimensions: 1. Alphabetism of the Media, 2. Alphabetism of the Information, 3. Socio-cultural alphabetism and 4. Planetary Alphabetism (Makrakis 2000).

3.2 Classification according to the Categories of Educational Activities

It refers to suggestions which focus in specific activities perceived as key abilities in information and knowledge society. They are usually formed in institutional frameworks and have a pragmatic orientation corresponding to measurable criteria. In this classification lies the danger that educational activities are applied only to a functional or even a mechanistic way.

International Society for Technology in Education (ISTE) is an organization that focuses on the integration of New Technology in education. The programme National Education Technology Standards (NETS) was created in the context of its work. It consists of experts in the educational sector, aiming to edit standards for the promotion of 'competence' in relation to New Technologies in primary and secondary education.

The programme was funded twice by the US ministry of education. In total three suggestions were formed: 1. National Education Technology Standards for Students (NET♦S), 2. National Education Technology Standards for Teachers (NET♦T), and 3. National Education Technology Standards for Administrators (NET♦A). Includes 6 categories of abilities (NET♦S 2007):

1. Creativity and Innovation
2. Communication and Collaboration
3. Research and Information Fluency
4. Critical Thinking, Problem Solving, and Decision Making
5. Digital Citizenship
6. Technology Operations and Concepts

The national curriculum of the subject of ICT of the UK focuses on five fields which contain further subcategories (National Curriculum of England 1999):

1. Capability,
2. Communication and collaboration,
3. Exploring ideas and manipulating information,
4. Impact of technology,
5. Critical evaluation.

It also describes four basic categories of processes with more subcategories for the development of ICT: 1. Finding information, 2. Developing ideas, 3. Communicating information and 4. Evaluating.

3.3 Classification according to Dimensions and Partial Abilities

Those suggestions focus on the dimensions of ability and are founded on theories of personal development, proved by research. In the context of those suggestions teachers are requested to make an educational reform in order to specify the educational actions within the framework of the curriculum.

Aufenanger's ideas are based on Baacke's anthropological approaches. Human "open-ness" (Unbestimmtheit und Offenheit), according to the writer, lies on 1. the ability to separate from oneself and reflect on oneself, 2. the ability to understand and use different means and codes of communication, aiming to express different notions and negotiate their interpretation and meaning (Aufenanger 1999). In this context Aufenanger perceives the term "media competence" the general human ability, which relates to all media, to cope with the challenges of a world whose reality is communicated through the media. He includes the following categories of abilities: 1. cognitive 2. moral 3. social 4. affective 5. aesthetic 6. active. Pöttinger distinguishes three categories of abilities through empirical approach: 1. Perception ability 2. Ability of use 3. Ability of action (Pöttinger 1997).

3.4 Structure according to Media and its Structural Components

Here lies the suggestions which orient to functional abilities in particular media and which edit structural components of media. This approach has some clear advantages. It does not specify specific subjects thus allowing educational actions to take into account the interests of students. Furthermore, it does not specify a given corpus of knowledge of an area, thus evading the adhesion to knowledge and activities bound to become outdated.

According to Unesco (Divina, 2006), media education in general and "Media Literacy" more specific, are oriented towards a group of basic notions, or basic

subjects, which are related directly to media or certain categories of media. The following four notions are suggested. They present a theoretical framework which can be applied in all kinds of media: 1. Production (of media content) 2. Language (of media) 3. The representations (media disperse) and 4. The audience (of media content). It should be noted that Buckingham (2005) uses exactly the same categories to describe the thematic fields of "Digital Literacy".

An example of media abilities construct based on specific media is put forward by Spanhel (1999) who presents suggestions on the forming of a Curriculum for media education, e.g. basic Media like images, slides, boards, comics for the fifth grade, television, videos and cinema for the sixth grade, audio media for the seventh grade, printed media like newspapers and journals, multimedia for the 8th grade and CD-Rom, computers and Internet for the ninth grade.

3.5 Mixed Classification

This classification includes categories of "media competence" classified in more levels. The specific suggestion is based on the model of classification of Media Literacy by Sofos (2005b), which has been reviewed based on the analysis of the media goals by the international bibliography. The advantage of this suggestion is the unification of those suggestions. It proposes a model of classification which includes: 1. thematic areas of interest in accordance with Tulodziecki (1997), ISTE (2007) and Makrakis (2000) on the horizontal dimension and 2. aspects of media ability (cognitive, active, communicative, affective, critical; Aufenanger 1999) on the vertical dimension. In the intermediate frame categories of activities relative to different means (Classic or new) are included. These means are related to educational and evolutionary activities.

1. Knowing media, the meanings, the language and their function.
2. Creating with media – developing ideas and materializing them.
3. Communicating, collaborating with the Media.
4. Researching and having access to information.
5. Making decisions, solving problems and reconstructing knowledge.
6. Developing digital/international conscience and citizenship (individual, society, ethics/law, economy).

From the briefly mentioned suggestions, it is concluded that the suggestions refer to all media, while it is apparent that New Media and the special abilities needed for their use, have a very important role. In general, different terms are used in order to specify the abilities, competence and approach related to the utilization of media for example Media Competence, Media Literacy, digital Literacy, e-curriculum, National Education Technology Standards for Students.

It becomes obvious that those are established through a pedagogical and interdisciplinary dialogue, while on the same time they are used representatively to describe the "new characteristics of modern man". The pluralism of terms is related to the point of reference used by researchers; according to their scientific approach, their perception of media and the media-educative approaches e.g. protective, critic and active. Furthermore, the formation of special categories of abilities and competence points that the above terms are established in the media-educative field as a particular category of educative goals in relation to the socio-technological and economic developments. Parallel to that, depending on the theoretic approach the terms "Media Competence", "Media literacy" and "Digital Literacy" are perceived as 1. general human ability, 2. educative idea, 3. general educational goal 4. measurable indicator in empirical research.

Here, it is pointed out that educational organisations and committees, which form the educational designing or act as consultants, express more intensively certain abilities, which have a pragmatic orientation, and focus on functional abilities combined to the demands of school, labour market, and modern society, but which, have not a mechanistic character, like for example aptitudes of ECDL (Weinert 2007). On the other hand, the approaches of theory experts focus on comprehensive abilities, knowledge and attitudes and orientate towards the emancipation, autonomy and self-determination of the person to be higher educative goals. Thus, it appears that those terms constitute a structure, which strive to explain and record phenomena and procedures which cannot be immediately accessed. Therefore, the terms "Media Competence" and "Media Literacy" cannot be outlined sufficiently.

- Despite the diversifications concerning the approaches to the terms basic orientations and guidelines can be distinguished.
- Technological: basic knowledge on different kinds of media and services (video, cinema, computers, internet, Software) and ability to use them
 - Functional: access to services and information, acquisition of data, storage, editing, sharing, communication and collaboration.
 - Analytical: data identification, understanding of the structural elements of certain media or service, interpretation of information, assessment of information quality
 - Critical: critical identification of the producer, of the content and the purpose of media content, structure (organization, production), cultural values and representations that media reflect
 - Productive: active shaping of content in order to express oneself, sharing of ideas, collaboration, experiment

- Social-political: identification of the role of media in society, taking advantage of their use for a productive participation in politics, danger of digital gap and social exclusion
- Personal: use of media for information, personal development, learning, life-long and distance education, construction of knowledge, communication, collaboration and preservation of democratic rights
- Aesthetic: awareness of the use of media, pleasure, enjoyment and sensation
- Ethical: responsible use in relation to social values, reflection on personal attitudes and on the influences by media contents, consequences on ecology (withdrawal of computers in the countries of 3rd world).

4 Instructive Orientations for the Transformation of Media Literacy in Education

From the point of view of the interpretative paradigm we can come to the conclusion that the expressed dimensions of media abilities have no normative character. They mark the basic abilities but parallel to that, pinpoint the conditions for the development and support of the abilities for media. As no individual possesses the full spectrum of necessary abilities, apart from those obtained through experience, it is understood that the development of the abilities can be realized through processes of cognitive transformation in the subject itself.

The instructive approach that relates to the idea mentioned above cannot be orientated by traditional teaching, which focuses on the teaching of programmes and tool application such as e mail, data base and others. On the contrary, it attempts to embody media and to boost the students' media ability through basic activities and functions which horizontally rule the school projects and in that way develop media in all the sensible areas:

- classification and organization
- research and information
- communication and collaboration
- production
- presentation
- evaluation

If an answer is to be given on how different personal abilities can be shaped, we have to take into account anthropological, cultural and social conditions which influence the procedures of transformation. Furthermore, the quality of the process of transformation e.g. Piaget, (Assimilation, Accommodation, Equilibration) depends on the mental and moral level of the development of a person. For this

reason we should refer to abilities in media related to age groups and to the level of development. Using as a point of reference constructive and socio-constructive approaches, we also have to note the meaning of participation in social interactions for the cognitive and social development of a person in combination with the acquisition of media aptitudes.

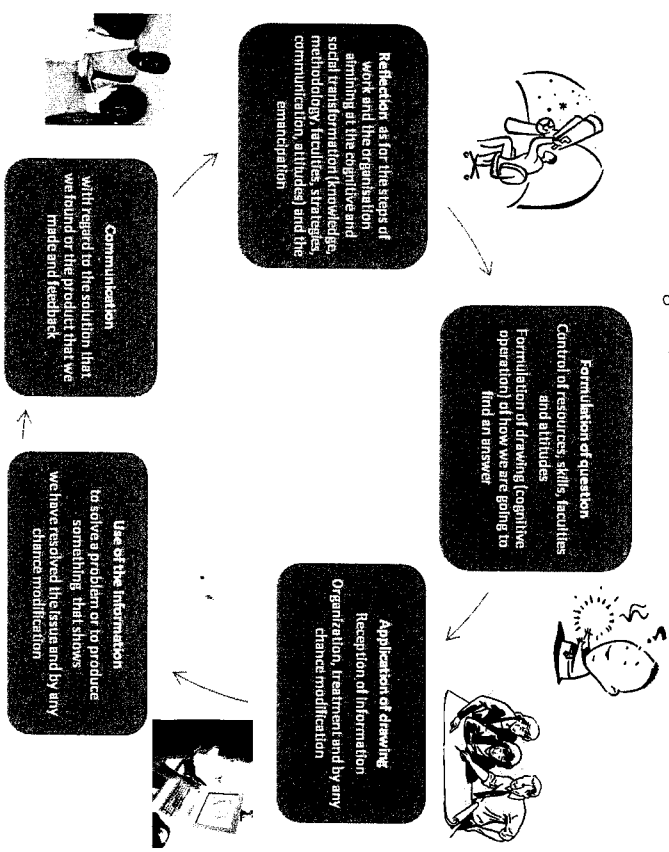
In addition, according to Piaget's approach (Piaget 1972), students are motivated through authentic situations which consist of dilemmas or occasions for study. Under these circumstances the students organize their thinking and they express their gnostic attempts through different acts within the group; for example notional maps, they look for information through the internet and data bases which they evaluate, they develop writing tools in order to record and to form their production, they use tools for the visualization of the results of their projects, for example Power point, internet and they use tools in order to evaluate their work.

According to all of the above, the promotion of Media Literacy can be achieved by teaching processes which points to action (Kaiser/Kaiser 2001). Learning in this frame is approached as action which happens two times: 1. Mentally, through the specific conception which composes a plan of action, 2. Reality. In this way, the possibilities of a failure are diminished and the individuals are liberated from fragmentary moves that take place in the bases of the model of trial and vagrant. At the same time the individual decide through the gnostic examination not to go through a specific action, a fact that releases him or her from the compulsion of a mediate behavior. Finally he or she is in the position to evaluate the decided action, the methodology and his or her part.

This procedure mentioned above is immediately related to the procedure of thinking and learning which is suggested by Dewey and has these phases: 1. Appointment or detection of a hardship or opposition, 2. Detection and specification of the problem, 3. Conception of possible solutions and creation of an authentication, 4. Mental application of the solution based on the theory and attentive evaluation of it, 5. Application of the solution to the problem and conclusions from the whole procedure (Dewey 1951, S. 75-82).

Moreover, according to Race Media work oriented towards Action relates to the learning circle that has been suggested by (Race 1993). According to this approach though is related to action, in the sense that the learning procedure consists of four connecting faces: 1. Active experimentation: the main part is owned by will and decided goal, 2. Specific experience of the individual who is acting, 3. Elaboration and observation of the results of the action, which is related to feedback and 4. Abstract contemplation which refers to the assimilation of the new data in the gnostic forms that already exist, is a fact that according to Piaget (1972), leads to the transformation of these forms.

Finally, the approach to media work as a holistic learning procedure comprises through more phases of active participation to many levels and it can be visualized into four subcategories:



Graphic: Approach of Media work as a holistic learning procedure

The approach to Media work with orientation towards Action as an educational principle has as a goal the exercise of the students' ability to act using all the faces of the circle and as a starting point the six basic functions of the school work. Students have to be able to make real mental conceptions and to act through a plan of action, which they would be able to control as a first fase through their Gnostic procedures.

The advantage of connecting media goals to the basic functions of school work is the fact that classification and organization, searching and gaining information, communication, collaboration, production, presentation, evaluation, all these compose the basic characteristics of a sensible object as well as of multi thematic projects. In that way media are established as every day tools for different educational uses, while its justification exceeds their teaching as an end in itself. The point mentioned above does not approach new technologies as a technological or neutral medium but as an educational medium, which has to

be developed within a general educational framework and with pedagogical semantic categories, such as upbringing, education, emancipation. For this reason the enrollment of new technologies is thought as a procedure of creative enrollment to the general socio-cultural framework of the school unit and especially in the social and life framework of the students with the goal to support their critical thought and the critical transformation of their knowledge, their ability, their position and their social liberation.

Finally, this means that the enrollment of Media Literacy into school must be considered as a continuous procedure within its framework the personality of the individual is constructed because within it he or she learns:

- To use media as a tool for his or her own social action
- To recognize media as a tool for other individuals' actions
- To compare media as a tool for individual and social action
- To critically observe media as a tool for action
- To reveal media as a tool for liberation

From this point of view, Media Literacy is perceived as an educational goal which points to the liberation of the individual, while on the level of application can be realized horizontally through the teaching of the sensible objects and vertically, through the classes and levels of school education.

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International Approaches to Media Education

Tapio Varis

At international level media education has been developed to promote media literacy. Especially UNESCO and the European Union have been active in this respect.

In Europe media education and especially media literacy has been actively promoted by the European Commission during the first decade of the 21st century. As pointed out by Ms Maruja Gutierrez Diaz the media literacy programmes followed the eLearning initiative. The fast take-up of the eLearning initiative brought with it some concerns about a disproportionate attention to technology. There was a clear need to develop a cultural, humanistic approach to the new culture, and to how best prepare citizens for the digital society, able to use its new tools but critically aware of their problems and advantages (Gutierrez Diaz 2006).

During a Hearing organized by the European Parliament in 2001, the Commission had the opportunity to discuss its initial ideas with the Council of Europe and with a group of European experts. A series of workshops on media education with experts like Stefan Aufferanger revealed a large consensus on the need to address media literacy in education, including it into school curricula, to give specific attention to new media, and to the impact of digital tools on the media world. Some interesting examples coming from the film industry demonstrated the advantages of a hands-on approach, of addressing media literacy exactly in the same way as reading or writing literacy. There was also consensus on the European dimension of this subject and on the opportunity to address it at the European level.

From Image Education to Media Literacy

My own keynote to the European Commission Workshop on "Image Education and Media Literacy" November 16th, 2000, in Brussels described media literacy as a perspective from which we expose ourselves to the media and interpret the meaning of the messages we encounter. We build our perspective from knowledge structures. In the global information and knowledge society the ability to communicate competently in all old and new media as well as to