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Digital literacy as a category of Media competence and Literacy- An analytical Approach of Concepts and Conditions for supporting Media competence at school.

Abstact

In this chapter, we approach Digital Literacy through the analysis of the concepts of "Competence" and "Literacy". Digital Literacy is a focus category of Media Literacy where the term "Media" refers to a holistic approach of media, from primitives (1st generation) to the New Media (4th generation).

In the first part, we focus on the various uses of the term "literacy" based on bibliographic research on pedagogy which reveals numerous generalized approaches of the term, such as "reading literacy", "mathematics literacy", "scientific literacy", "ICT Literacy", "Photography Literacy", etc. 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.

In the second part, we bring forward approaches of the concept "media literacy" from theoretic research and educational organizations. The different comparative state positions are systematized under five different perspectives (Tulodziecki 2007). The main focus here is on the conceptual framework on which all these approaches are based and on the objectification of the partial aims of digital literacy.

Finally, in the third part, we analyze the main conditions that co act digital literacy, at three levels: (a) macro-social, (b) micro-social and (c) inter-personal.

Introduction

The international discussion in the field of education about the knowledge , the aptitudes and the attitudes of students nowadays includes concepts that are synonymous, hyperonym, 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 sphere of daily apperception, the above concepts signal a common range of abilities that students and in general the people of the knowledge society and information should posses. On the other hand, through an analytical investigation of the concepts, differentiations are detected concerning the theoretical background, the

type of the approach, the educational content, the specific Media focused, the partial dimensions they include 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 "Medienkompetenz" is used and in the Scandinavian countries in everything that has to do with the digital media, the term "Digital competence" is used (Krumsvik, 2008).The two basic concepts used however 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 2008) and is different for each individual because it is configured within the social, political and economic framework he lives in. Thus, the social environment affects potential to use the media, understanding of the world and participation in the areas of everyday life.

At this point we should note the fact that the concept of "Literacy" has been a source of conflict as to its appropriateness. The disagreements that have been expressed relate to the fact that as a concept it is very general and inaccurate. Specifically, Schäffer (2006) notes that the connection of "Literacy" which is historically related to abilities and aptitudes in a 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. In some cases, the concept of "Literacy" is approached as functional literacy which is being conceived through countable aptitudes. Sting (2005, 30) 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. Moreover, if one considers the special practices and distinctions (visual, audio, audiovisual) in 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 literacies like the "aesthetic" (Dunker 2005) which among others includes as partial categories the "coloring" the "envisation", the"visual" the "manipulation of image" or the "cinema language" with the particular camera shots, the montage etc, as well as specific experiences (among other harassments in social networks) knowledge and roles cannot become a work task of a written language literacy. The New Media create new functions, e.g. digital substitution of natural objects, e.g. digital Board, and have the tendency to "vanish" from the user's perception, e.g processors in domestic appliances. All of the above constitute new phenomena which the classic concept of "Literacy" is unable to approach.

2. Conceptual approach

In the passage that follows the two basic concepts of "Competence" and "Literacy" and the term "Digital Literacy" are concisely presented. 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 e.g. "Photography Literacy", "Visual Literacy", "Audiovisual 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 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 the 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 (1981) connects "competence" with the theory of Universalpragmatik and denotes that human communication is a priori founded on the discourse about objectives and can be conceptualized as communicative action. In the educational area Baacke (1980) based on Habermas's approach delineates "media competence" as a subcategory of "communicative competence". 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 1999,32).

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 (1979) man as social subject is "self constructed" i.e he constructs personal reality and generates cognitive structures. 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 posses diverse communicative codes (along with the ones that refer to the New Media), to be able to acknowledge that in interpretations there is "room" for diversity 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 the secondary, second generation (book, newspaper), to the third generation media (radio, telephone, television) and finally, to interactive media e.g. computers and the internet.

Media competence is used widely in the francophone scientific area. It is considered as 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 obvious the fact 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 the development of models and the planning of media educational and/or instructional activities and 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 the Media but the process operation of competence which refers to the Media (Kron, Sofos 2007). 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 utilize the Media in order to achieve aims, to fulfill wishes and interests in different social areas of everyday life.

The same abilities basically constitute emanation of 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, σ. 32). Furthermore, the term of media competence pertains to two dimensions: 1.with the product namely the result of an action e.g. 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 e.g. research or critical competence which refers to the invisible side of the subject's ability to apperceive probable activities

with the media. In a pragmatic approach of 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 e.g. conception or internal action (Competence), which in educational practice are frequently complementary, forming the two sides of the same coin. (Kron, Sofos 2007, 91).

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 mention is made all the more of 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 and on the concept came to refer 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 *alphabetisation* (literacy learning) were used to refer to what was perceived to be a literacy problem of immigrants." (OECD 2008: 10).

Even though the concept of "Literacy" is deemed to criticism as put forward above, it is frequently used in an institutional level and in 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 e.g the research titled "Current trends and approaches to media literacy in Europe" which was delivered by the group of experts (Media Literacy Expert Group) for the E.U. in 2007.

H 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 his or her goals, develop his or her

knowledge and potentials, and participate fully in the community and wider society." (UNESCO 2008, 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.ethe 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 which we are now being confronted with on a daily basis and which are an important part of our 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 2007,13).

The above definition broadens the approach of "Literacy" towards the following: The concept of "Literacy" is regarded 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 a 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.elanguage 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 2005). "Media Literacy" refers to the four dimensions mentioned above.

Furthermore, if we also consider the architecture of the Media, then we 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 presuppose supporting technology only from the side of the author of media contents, that is newspapers, books, journals, *Third generation*,(which promote the linear communication and presuppose supporting technology from the side of the receptor of media contents) *Fourth generation* (which operate based on decentralized nets, allow two-way and interactional communication and presuppose supporting technology from both sides) (Faulstich 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.c.). 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, utilizing the 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 "Multliteracy" is comprehensible. This term focuses 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. (Ξωχέλης 1986, Kössler 1989). The first term stresses the mental and spiritual refinement of the individual in relation to the 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 (2001) prophetical 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, 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 Maletzke (1998) και Manovich (2001) 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. 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.ethe Web 2.0 (Kron, Sofos 2003),the ability to navigate in three-dimensional textual and multimedia stuctures.

Under the angle of the above approach the term "Digital Literacy" refers to diverse forms of work and function of the 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 above 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 of 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 utilized 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, Steyaert (2007) these can be determined in three categories of aptitudes: 1. the functional-technological 2.the structural and 3.the strategic .

The functional-technological aptitudes are necessary in order to manipulate the New Media. These are not confined to simple psychomotor aptitudes i.emouse movement, but expand to more complicated procedures which require cognitive processes, in order to either utilize 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 refer 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 above categories of aptitudes are considered important in 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 labor. 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 (Σοφός 2008).

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", we can examine the suggestions of certain experts (Baacke 1980, Aufenanger 1999, Tulodziecki 1997, Buckingham 2007), as well as those coming from educational institutions (ISTE 2007, National Curriculum for England, UNESCO). According to Tulodziecki (2007) and to the analysis of the

suggestions studied in this research, it is assumed that the classification of these concepts can be processed based on five approaches.

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 exemplar 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 in the development of school infrastructure in order to enhance media education, act as restricting factors. Examples of such suggestions consist:

Baacke (1980) taking into account the socio-ecological approach points that the diversified media environment shapes a complex reality, which students have to face. 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. "Competence" is seen therefore as an anthropological dimension which characterizes human kind. According to Baacke (1999), "Media competence" spreads to the following fields:

1. Medienkritik: a) analytische, b) reflexive, c) ethisch
2. Medienkunde: a) informative, b) instrumentell-qualifikatorische
3. Mediennutzung: α) rezeptiv-anwendend b) interaktiv, anbietend,
4. Mediengestaltung: a) Innovativ, b) kreativ

Tulodziecki (1997) focuses on the integration of the 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. 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

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 with a functional or even a mechanistic way.

International Society for Technology in Education (ISTE), is an organization focusing on the integration of New Technology in education. The program 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 program 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). NET◆S include 6 categories of abilities (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 :

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 (http://curriculum.qca.org.uk/key-stages-3-and-4/subjects/ict/keystage3/index.aspx?return=/key-stages-3-and-4/subjects/ict/index.aspx).

The categories of "e- curriculum" which were formed in the process of the programs "Socrates" and "Minerva" programs (2004) diverge from the basic categories of abilities and skils and turn towards learning activities which develop students' "e- competence" in order for them to function effectively in digital society and take advantage of the possibilities digital instruments offer.

In total, four categories are included : 1. exchanging and sharing information, communication and collaboration 2. researching, finding out information 3. Modelling 4. working practices and attitudes.

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 in the framework of the curriculum.

Aufenanger (1999) is based on the anthropological approaches of Baacke. Human "open-ness" (Unbestimmtheit und Offenheit), according to the writer, lies on 1. the ability to separate from himself and reflect on himself 2. the ability to understand and use different means and codes of communication, aiming to express different notions and negotiate their interpretation and meaning. It is under this approach that 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 (1997) distinguishes three categories of abilities through an empirical approach 1.Perception ability 2. Ability of use 3. Ability of action.

3.4 Structure according to Media and its structural components:

Here lie the suggestions which orient to functional abilities in specific Media and which edit structural components of the 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 relate directly to the 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 the Media) 3. The representations (Media disperse) and 4. the audience (of media content).It should be noted here 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 advantage of this suggestion lies on the unification of those suggestions. Sofos (2005) proposes a model of classification which includes 1. thematic areas of interest in accordance with Tulodziecki (1997) an Aufenanger (1999) on the horizontal dimension (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) and 2. aspects of media ability (cognitive, active, communicative, affective, critical) 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.

From the above suggestions presented briefly, 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 eg. Media Competence, Media Literacy, digital Litercy, i-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 of 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 2001). 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 in the approaches of 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 the media for information, personal development, learning, lifelong and distance education, construction of knowledge, communication, collaboration and preservation of democratic rights
- Aesthetic : awareness in the use of Media, pleasure, enjoyment and sensation
- Ethical : responsible use in relation to social values, reflection on personal atittudes and on the influences by media contents, consequences on ecology (withdrawal of computers in the countries of 3rd world.

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 the 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. 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), is dependent on the mental and moral level of the development of the person. For this reason we should refer to abilities in the 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.

Finally, the meaning of pedagogical and teaching ability of teachers in Media should be remarked as part of a general professional ability e.g. ability and efficiency in the area of expertise 2. ability of teaching transformation 3. ability of reflection and classification of teaching actions 4. social ability, meta-communication ability

4. Prerequisites of competence in Media

The formulation of target classification for the promotion of the ability in Media of students and teachers allows the implication that the acquisition of respective abilities and aptitudes depends on personal progress and output. By the examination of the bibliography on Pedagogy (Philipp, Rolff 1998, Schratz, Steiner – Löffler 1998, Kron, Sofos 2003), it seems that important prerequisites are a series of conditions, which will be presented below in three levels 1.in the macro level the ability in Media is perceived as the ability of action inside the educational system, 2. in the micro level it is perceived as the ability of interpretation and 3. in the personal level as a personal ability.

4.1 Conditions at a macro level

At this level, during the organization of the school, social, political and economical forces are applied, as well as, decisions which affect the abilities of students and teachers in Media. Lately, for example, specific abilities in Media are introduced, which teachers have to possess in order to use them in their teaching NET-T, 2008). On the other hand, it is known that teachers in school act in a framework of stable and prearranged roles and relations and have developed a corresponding systematic ability and logic of action. In this, phenomena of inhibition and manipulation appear. This fact shows that the development of the ability of teachers in Media correlates and is co-defined by the systematic ability, meaning the logic and practices at school. Therefore, it is considered important to have a common base that is a kind of negotiation of the values and orientation between the educational sub-systems. As, for example, there is a common base of values between the political and legal system, in order communication between them to be possible , in the same way there has to be a corresponding common base between the educational policy and the real organization and function of the school. Through the analysis of school curriculums and organizational structures of the school, it seems that this is not always possible and that the relationship is frequently dysfunctional.

The term ‘dysfunctional’ underlines the structural differences inside a system. At school, for example, there can exist tension, if some teachers extend the content of their lessons by the use of New means, coming into conflict with the requirements of the curriculum. In this case, the application of new technology is contradictory to the specified targeting. According to Parson’s structural and functional approach of the

existing school sub-systems, like the environment adaptation, the use of educational means and the realization of targets, cannot anymore exist in harmony (=functionality). The detection of structural solutions, as an answer to this tension, becomes more difficult. In relation to school as a structure, this means that teachers must develop aptitudes in order to cope with the new challenges. Definitively they cannot modify the existing structures but they can make space for the insertion of New Means in the educational action. The development of Media Aptitude starts with the development of the ability to co-shape the structures as well as a media philosophy, which presupposes the knowledge of institutional references to incorporate digital Means in education, the cooperation with external agents for the support of media work and the continuous broadening of educational activities in electronic environments.

4.2 Conditions at a micro level

The factors that affect the communication and the social interactions which correlate directly or indirectly with the capability of the Media are connected to the micro level.

The formulated target categories of Media capabilities are seen in the frame of education as forms of social-cultural norms which are institutionally secured. A definition such as critical evaluation should be interpreted as a guided action in a specific educational occasion and an authentic working environment indeed. This means that educators should probably transform them in the frame of media educational actions. Such educational interactions are considered as cooperative production procedures that include partial actions to negotiation, for example the negotiation of a subject, information research, formulation and assessment of the results. A factor of determinative importance is the support of the media capability in the frame of the curriculum. Within this frame the contribution of the educators is crucial, because they are called to recognize connection points in the curriculum for the incorporation of productive media projects in teaching.

Moreover, a basic condition for the promotion of media ability in education is the consideration of knowledge as well as the media experiences of students. Considering the principle of teaching which states that inversion and experience constitute the basic source of the mental life as a benchmark, it is concluded that the development of students' interest constitutes a pedagogical goal and a check point of media work. The pedagogical interpretation of this principle denotes that the use of Media in education does not automatically mean a good quality or the empowerment of teaching.

A presupposition is the capability of teachers to utilize the New Media in order to create a learning environment with an authentic matrix of work, to negotiate about the subject and the process of work, to include the prior knowledge and the

experiences of students et. (Design and Develop Digital-Age Learning Experiences and Assessments).

Through Mead's approach of symbolic interaction, interactions are being perceived as a means for the structure of reality, because the participants give meaning and negotiate social actions under specific conditions. Through this procedure, models are being created and established, which constitute a benchmark and on which pedagogical actions are based.

Knowledge, experiences and behaviors which are acquired within this framework are transferred to new conditions as well, as for example media work. In the frame of teacher education, teachers are asked to evaluate and reflect on current research and professional practice and to search for alternative practices for the utilization of the New Media in the teaching procedure, in project creation and in assessment of progress etc. The functional knowledge of New Media constitute a basic condition for the design and the creation of media actions, but must be bordered in a frame that promote professional actions with the use of the digital Media (NET-T).

4.3 Conditions at a personal level

At this level the interest focuses on the personal learning ability and on personal reflection. Learning, as a self regulated task on a subject presumes that students organize a series of work steps in cognitive, affective and activity level. The interest is focused on educational activities which support the abilities and aptitudes of students regarding access to internet sources, acquisition of experience with different forms of information e.g. databases, wiki, online dictionaries and the use of electronic sites, Learning management systems, collaborative tools for school and informal learning, the active creation of content in different forms e.g. webpage, presentations and forums. In any case, it is important to understand the value of digital Media, both in school learning and informal and life long learning.

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