Hi. Welcome to Content for eLearning. My name is Christopher Karachristos, and I am an instructional designer for Hellenic Open University. One of the most challenging aspects of creating a successful eLearning program, is populating it with relevant, engaging, and useful educational content. In this video we will discuss about the definition of the educational content for eLearning, and about some core elements that need to be considered when selecting media resources.

So, what exactly is content for eLearning? In traditional face-to-face learning events, the learning activities are performed and controlled by the educator, who provides the learners with important guidance in achieving the learning objectives. In the online environments where the presence of the teacher is limited or non-existent, the educational material plays a very important role in the acquisition of knowledge by the participants. ELearning content is different from multimedia content for face-to-face training. In the first case, the material should be accompanied by appropriate instructions on how to integrate into the educational process in order to allow learners to use it effectively. It should also follow several minimum specifications so that it can be integrated into the learning management system through which it will be available.

Content for eLearning can consist of different digital elements, ranging from simple learning resources like documents and PowerPoint presentations to interactive content, simulations, and video games.

eLearning content development is the process of crafting and combining relevant digital educational resources, which complements the learning objectives set in the instructional designing phase. The process of creating content for an eLearning course is the most important part of the eLearning development procedure as various parameters should be considered.

Some of those parameters are, interactivity among participants, fulfillment of the scope and learning objectives, the quality of the content and its universal applicability by confirming to eLearning standards. Pay careful attention when developing eLearning content, to avoid overloading learners' working memory, as this can be detrimental to the learning process. The development of high-quality content is very important for successful eLearning courses. However, the extent of the development, depends on the amount and quality of existing

educational material and the need for new material. In most of the cases, it is very likely that a set of materials for a specific subject is already available. These materials can consist of technical documentation, user manuals, course handouts and lecture notes, presentations, documented case studies, photographs, images, graphs, tables, and other illustrative materials. The development of educational material for an online course, brings the creator of educational material faced with the dilemma of utilizing existing educational material or the development of new. It should be noted that the educational material often exists in printed form and should be digitized and modified accordingly to be used as content, appropriate for eLearning.

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The existing educational materials and resources, used in traditional courses, cannot be automatically considered as educational materials, appropriate for the eLearning by just digitizing them and making them available on an online course. ELearning events differ from traditional face-to-face educational events and require specific formats for educational content. Material must be carefully selected and re-designed according to pedagogical and multimedia principles and must embed adequate instructional support to allow learners to function independently throughout the course. Utilizing ready-made educational material has the advantage of saving time and financial resources. On the other hand, this approach presents the significant disadvantage of the need to thoroughly examine the suitability of this material to achieve the goals of educational intervention, and its transformation in case it is found that it cannot utilized as such. In either case, content development should be based on the course (or curriculum) plan, which describes learning objectives and topics to be covered. And the language should be direct, informal, easily understood by diverse people and culture- and gender-sensitive.

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Tony Bates in his book titled "Teaching in a Digital Age: Guidelines for Teaching and Learning" states that there is a very wide range of media available in education, like text, graphics, audio (including speech), video and computing (including animation, simulations and virtual reality). All of them have unique characteristics that make them useful for teaching and learning and are usually used in combination.

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According to him, the choice or combination of media will need to be determined by, a) the overall philosophy behind the teaching, b) by the presentational and structural requirements of the subject matter or content, c) by the skills that need to be developed in learners and, d) by the imagination of the teacher or instructor in identifying possible roles for different media.

One difficult part in the designing and developing of the educational material, is often finding the best match between media and desired learning outcomes. The research has indicated that there are three core elements that need to be considered when deciding what media to use. These are the representation of content, the content structure, and the development of skills.

According to Gavriel Salomon, researcher to the Haifa University of Israel, media like text, sound, graphics, etc. differ in the extent to which they can *represent* different kinds of content, because they vary in the symbol systems that they use to encode information. Thus, there is a difference between a written description, a direct experience, a video, and a computer simulation of the same educational concept. Different symbol systems are being used, conveying different kinds of information about the same concept. For instance, in a concept of experimenting with Vanadium, which is a chemical element, information can be derived from text relevant to the element, observance of experiments in simulated environments, or animations about the structure of the element. A large part of learning requires the mental integration of content acquired through different media and symbol systems.

Bates, states that media also differ in the way they *structure* content. Texts and audio tend to present content sequentially although parallel activities can be represented through these media (for example, different chapters dealing with events that occur simultaneously). On the other hand, computers are more able to present or simulate the inter-relationship of multiple variables, simultaneously occurring in educational process. Computers can also handle alternative routes through information. This feature is also incorporated in eLearning content. Subject area determines the way in which information needs to be structured. For example, natural science or history, structure content in particular ways determined by the internal logic of the subject discipline. Consequently, different subject areas will require a different balance of media. This means that subject experts along with content developers, should choose the appropriate media elements and to ensure that the chosen media, match the structural requirements of the subject area.

Media also differ in the extent to which they can help develop different skills like intellectual, psychomotor, or affective skills. Lots of research has been done about the level of cognitive learning that the different media achieve in the learning process. Researchers agree that, *comprehension* is likely to be the minimal level of intellectual learning outcome for most

educational resources. At the highest level of skills comes the *application* of what one has understood to new situations. Here it becomes necessary to develop skills of analysis, synthesis, and evaluation. Thus, a first step is, to identify learning objectives or outcomes, in terms of both content and skills, while being aware that the use of some media may result in new possibilities in terms of learning outcomes.