

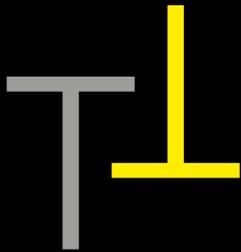
**E-LEARNING AND  
PUBLISHING:  
NON-IDENTICAL**

# TWINSTWINS



SALVATORE NASCARELLA

# CONTEXT



Digital transformation has permeated our lives and the way we work. We are immersed in a state of perennial transformation and the publishing world is no exception. All sectors that work on content at various levels are faced with new challenges, similar to a continuous change of skin.

The explosion of e-learning, and more generally distance learning, is just one of many manifestations of change. And we are not just talking about business or academic training.

There are tutorials on topics that have nothing to do with corporate training or school desks: an example is the swarm of video-tutorials on how to prepare recipes, how to do small DIY jobs at home or make up courses, etc.

The issue is simple: it is not just about adopting innovative technologies and cutting-edge digital solutions in education. We are talking about a new mindset.

We are focusing more on the term “learning” than “training”. The change we are experiencing presents us with more engaging forms and learning experiences, with formulas borrowed from other areas (cinemas, cartoons, video games, podcasts), in which learners are at the center, indeed they guide the learning experience, which has little to do with traditional teaching.

Today a student is anyone who wants to learn, not just those who have to do it because of their age or work. The web, search engines and mobile devices have stimulated an autonomous and explorative attitude towards knowledge.

Why talk about the relationship between the publishing world and e-learning?

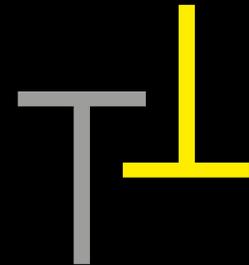
Because both work on the same subject: contents.

We will see further how these two worlds are contiguous, how much they can be complementary. We will see some cases and experiences, where publishers have decided to differentiate their market by opening up to learning solutions or dissemination of content through platforms or methodology belonging to the world of e-learning.

The boundaries between what is digital book and what is a on line course over time have dissolved.

E-learning is, or can become, a channel for the promotion and sale of publishing contents, a way to regenerate them, to give them a second life, return to disseminate them and to analyze them with a view to future production choices or to generate content from below. To underline the fact that this phenomenon does not only affect books for school and scientific issues, but extends to any content that can expand knowledge and skills even non-professional.

# A DEFINITION



In the technological and educational landscape that also involves the publishing sector, we hear more and more talk about e-learning, often in an unclear manner.

But what is e-learning and how is it connected to publishing?

E-learning is a form of online learning. Access to resources and services is simplified by digital tools, ad hoc platforms and remote connections.

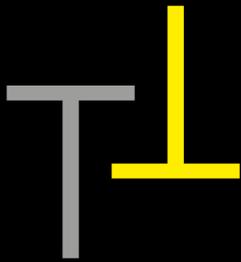
Why is e-learning becoming increasingly important?

1. Because access to content has become easier;
2. Because in some cases the response time when training is needed is much faster than paper or even more simple than a classroom course;
3. Because learning is the responsibility of the student, who chooses when to learn.

Content has changed its shape, fragmented itself, reshaped itself or presented itself in different ways, with variable levels of detail and access requirements. This element ensures that people continue to search and generate information and, consequently, to seek and generate training.

How close is e-learning to publishing? Very. As I said, both sectors work on contents. If we look at the similarities between e-learning and digital publishing, the contact points are even greater. For example, e-learning and digital publishing have both defined content coding standards, so that they can be used by different devices; both have the ability to mix different forms of content (links, video, audio, graphics). Publishing and e-learning have a very similar process flow. We will see more details about this later.

# A BIT OF HISTORY



E-learning is commonly associated with “distance learning”, a limitation regarding the complexity of the topic.

Distance education dates back to the very birth of writing. If we think about it, knowledge has been transmitted through books, scrolls and parchments for centuries, in a transgenerational way. This type of training is characterised by 2 dimensions, i.e. space and time.

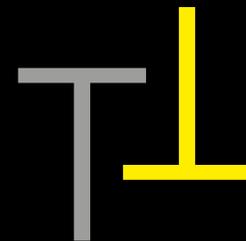
Without going too far back in time, we can identify the first structured form of distance learning in the nineteenth century, based mainly on written and printed correspondence, conveyed over the railway network in ways and times that represent self-learning.

Subsequently radio and / or television broadcasts (synchronous mode) enhanced the experience. Another piece was added training via vinyl records and cassettes before the diffusion of personal computer systems, which introduced a fundamental element: multimedia. This was the era of CBT Computer Based Training, teaching aids usually conveyed on CD Rom with text / audio / video / graphic / sound mode used via personal PCs. The delivery method is “one to one” without interaction between learner and lecturer. However, the independence of the student in managing the learning methods and times remained strong.

From here we switched to online training. Multimedia was reduced in complexity to give space to interactivity. Net-Learning was born, the place for learning from expanded to create a “collective intelligence”, via platforms and dynamics dedicated to distance learning that exploits technology (Learning management system). This is e-learning. But there is another step to be taken and that is what we are experiencing now: today we are talking about digital learning, not just about e’learning.

Digital learning expands learning to use everyday technologies. We talk about social media, social networks, chats, newsletters or interactive video games, tools that were initially not meant for digital learning, but which are nevertheless extraordinary spaces for non-formal learning.

# THE “PASSAGE” FROM E-LEARNING TO DIGITAL LEARNING



The combination of methodologies / technologies is changing the way of thinking, even before the way of training.

We still have many tools to “convert” to training, tools that we use for leisure or for work, but in some cases we have not yet used them as training channels.

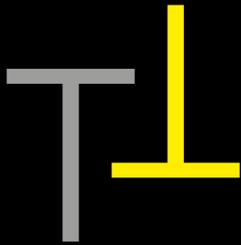
Some examples? Social learning, community creation, the generation of content from below, as well as the generation of “snack content”, fragmented and easy to understand, are now consolidated experiences. Immersive virtual reality, on the other hand, is struggling to take off, although its potential has been understood. The same is true for gamification that clashes with the stereotype of training as a “serious thing”.

Today one of the elements that is driving the new learning models is the Learning Experience.

There are systems that track the whole training experience, not just the use of a course. They become predictive of “training consumption” behaviours. These solutions, if you think about it, are not far removed from Netflix or Spotify, both with regard to distribution logic and content selection.

The aim is to trigger a process in which learning environments are hybrid, able to include different spaces (real / digital), time (synchronous / asynchronous), contexts, social networks, didactic-pedagogical and cultural approaches and information, education and technology resources. Environments in which people and context (meant as contextualisation of training needs) define and control the objectives to be achieved: giving continuity to learning through more spaces and contexts, as well as having the opportunity to learn at any time and anywhere.

# DATA AND PERSPECTIVES

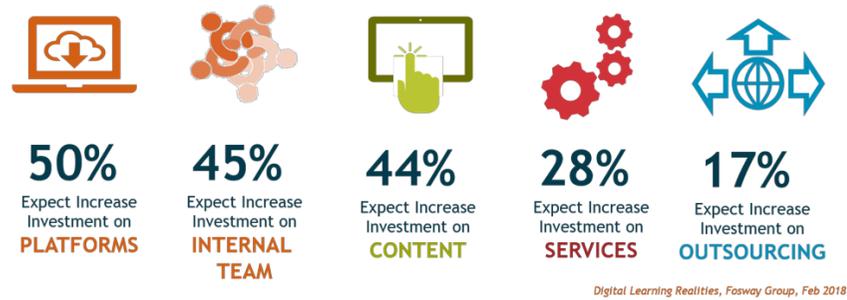


Corporate e-learning has grown by 900% in the last 16 years, with a significant growth also in other sectors (school and online learning in general). The value of the e-learning market is expected to reach \$ 37.6 billion by 2020.

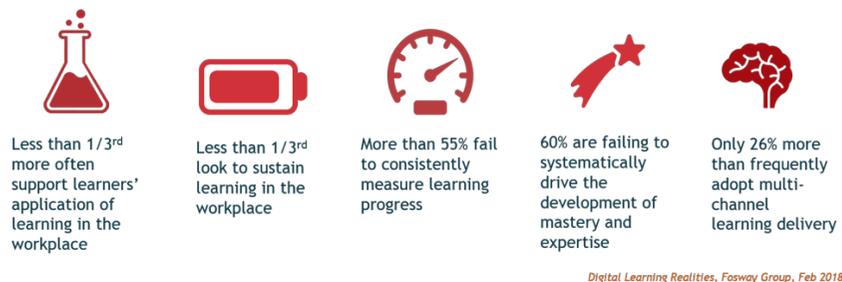
Approximately 77% of US organisations offer web-based training. E-learning has stimulated an increase in revenue of 42% for organisations.

To understand the explosion that e-learning has experienced over the last 5 years, it is enough to observe the success of MOOC platforms, environments that bring together courses designed for distance learning that involve a large number of students and in which university lecturers and opinion leaders are often involved. Moreover, the professional social network par excellence, LinkedIn, has created its own Academy, for a fee, through which it provides video courses. Will it be a one-off? Even Facebook is thinking of a training platform...

The Fosway Group report tells us how organisations will invest in online learning in the near future. For those who work on content is a very interesting read.



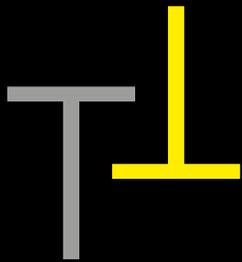
Tools, skills and content: these are the 3 channels on which the world of distance learning is moving. This concerns both companies and those more generally involved in teaching. Despite the increase in investment, innovation must be managed, because we have realised that it is not enough to adopt a new technology because training is effective. The infographic below demonstrates this.



Today more and more we are talking about “Learning Systems”, that is, complex environments in which the student accesses and moves on paths that can be free or that can direct them in one direction rather than another. The aim is to make the student responsible for their choice of training: in the business environment this allows the learner to work on professional growth by designing their own path in whole or in part. Another advantage is being able to learn at a more tailored rhythm. Gaming logic with scores, ranking, prizes and awards is often used to support the learning system.

An example of a learning system is the one created by FCA (FCA learning City <https://www.youtube.com/watch?36=&v=8ljlg1CRicA>), a real city where workers can develop their skills. This system won the Excellence & Innovation HR Award in 2018. The platform proposes a fair model, based on the idea that all users must have equal access to learning resources and the ability to demonstrate their talent. In the city platform users can access training resources, compete with interactive games and participate in business challenges. Many companies have developed or are developing similar projects, increasing the responsibility of users on their choice of training and therefore on their professional growth.

# WORKFLOW IN E-LEARNING



The process of creating content for e-learning activities is very similar to the editorial process. There are phases of design, writing, reworking, editing and developing the final product.

The role of the author, however, is a strongly differentiating factor. In traditional publishing the author is the person who designs the content and creates it directly.

In e-learning the author is very often “only” the expert of the subject, a person who collaborates in the drafting of the content but does not write the final version themselves.

There is another person, the instructional designer, who reworks the content selected and worked on by the expert in the field initially, adapting it to the medium on which it will be disseminated. In editorial terms, we can define an Instructional designer as a co-author editor of the content itself.

This is because the author of the course often does not have specific skills in e-learning. It is not enough to know how to write well or know the subject of the course to create an effective e-learning course. Specific teaching and technology skills are needed. For this reason, the role of content ferryman, like that of the instructional designer, is fundamental.

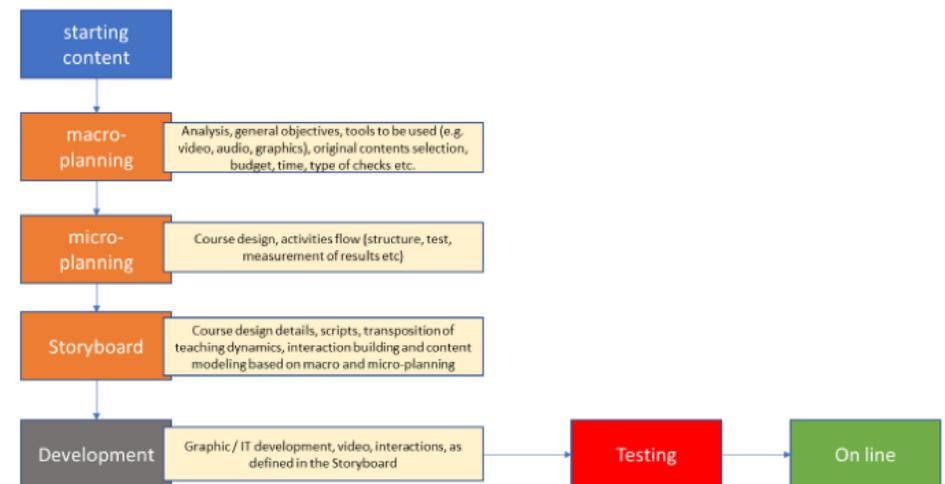
Even those who transform the training project into a

training product must have different technology skills. It is true there is a lot of software for creating courses are many and yes, there are more widespread programs, but it is still not possible to define a real leader. For example, some e-learning development companies have created their own content creation software. If you think about it, software traditionally used in publishing can easily be counted on the fingers of one hand and have now become standard.

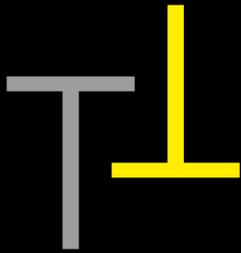
Content or “Learning Objects”, are managed through platforms called LMS (Learning Management Systems), containers with parameters that allow the delivery of online courses, enrollment and management of students, tracking of activities, storage of results obtained, their organisation in “virtual classes”, the preparation of virtual collaborative environments to promote learning and the collaborative exchange of information (forum, chat, etc.). The educational content can be accessed by the users through a common internet browser (without any need to install ad hoc software on the student-user PC). LMS can be integrated with LCMS (Learning Content Management Systems) software for the management and creation of educational content. In addition to a-synchronous learning (that is, the use of

the educational contents at different times), often the LMS provide tools for real-time interaction between users or tutors / teachers (synchronous mode), including webinars, shared whiteboards, video-conferences, etc.

Below is a very simplified process for creating a course, starting from already existing content up to putting it online on an LMS. Each phase includes moments for checking and sharing with the people of the team working on the content.



# THE STANDARDS



Standards have been set to allow the inter-operability of *Learning Objects* on different platforms (LMS) and their re-aggregation into new educational modules over time . Standards are also fundamental in the e-learning sector: it is thanks to them that we can use the authoring tool and learning management system in an optimal way. The existence of standards is one of the elements that brings together e-learning and publishing.

## **SCORM**

SCORM is the most used standard: it is a *reference model* that defines the relationships between the components of an e-learning course, the data models and the protocols, so that the content of the Learning Objects can be reused in different systems conforming to the same model: a bit like epub for digital publishing, but without competitors... The SCORM standard makes it possible to use a Learning Object on different e-learning platforms, from different manufacturers or suppliers, with the reasonable certainty that the content will always be accessible and functional because there is a common technical standard. In practice, SCORM defines the technical characteristics that must be supported by an LMS platform and used by the Learning Object

It allows you to create reusable, traceable (by LMS) learning objects that are catalogued by metadata.

SCORM Learning Object is a .zip file and can contain different types of resources, including images, audio, video, texts, etc.

Learning objects may need to be used in a specific sequence or according to specific constraints (for example, move on to Lesson 2, only if lesson 1 has been completed previously, or depending on the result of a test).

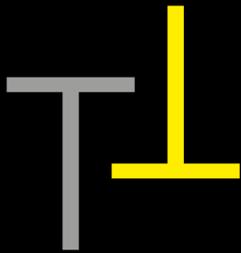
SCORM is starting to show its age. In fact, it is limited to recording actions within the LMS, such as course attendance records and test data (completed / passed / failed), but it is not able to be as effective as possible outside an e-learning platform, where it completely loses its effectiveness.

## **xAPI**

Unlike SCORM, the Tin Can API / xAPI standard makes it possible to record training activities outside the LMS, on mobile devices, wearable gadgets and simulators, thus representing the future standard of training technologies: therefore, a fragmentation of means and training channels that we are experiencing today is ideal.

xAPI is considered the successor to SCORM, able to track the progress of training in offline mode and having micro-behaviour tracking features, linking them to real performance, team-based training and training plans / objectives. XAPI makes tracking any learning experience (formal and informal) possible and not just the use of a course. It is therefore the enabling technology of "learning in the workflow" and Learning experience environments.

# THE VALUE OF TRACKING



As mentioned previously, e-learning technologies allow real-time availability of a large amount of data on the user learning process. The student's use of content can be checked thanks to automatic monitoring.

The student's path, when they abandon a course, how much time they spend using the content can also be checked: all of which are very important elements for evaluating the success of a course. Now I do not think it's hard to envisage how much this data can be just as useful for measuring the success of editorial content.

Publishers working in e-learning often manage training platforms on their own. Registration on the courses on these platforms is open to people whose personal details, frequency, results of training, number of accesses, attended courses, participation in forums, questions asked to the tutor, etc. will be known by the editor. How many "traditional" publishers and how many content distributors can identify with their own product the person who bought it with this amount of data? If you think about it, it's a wealth of data similar to the one that Netflix or other streaming platforms can use, but with e-learning we go further: we can know if and what the person has understood from the content, not just the level of satisfaction.

# THE RELATIONSHIP WITH THE AUTHOR / PUBLISHER



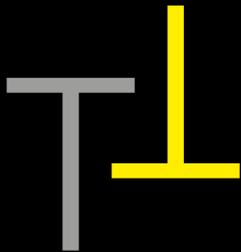
The e-learning editor and author / lecturer can communicate with the students, assist them in case of difficulty, report any gaps to the students themselves, of which they may not be fully aware and follow their progress.

The conversation can be direct (through chat, forum, mail, webinar), useful in maintaining the relationship and reducing the likelihood of the student abandoning the course. An e-learning platform provides a series of tools that help in the evaluation of content delivered and user behaviour.

This makes it possible to set up reinforcement and learning recovery activities, even during the delivery phase.

All data relating to each student can be consulted at the end of the learning process by the student themselves, by the publisher and, if desired, by the author.

# NEW TRENDS



Finally, let's look at the latest trends.

## **Adaptive learning**

Adaptive learning is a method that adapts the training material to the learning needs of the students, based on their knowledge and skills profiles. In practice, learners are transformed from passive information receivers to active contributors in the educational process: it is a more personalised training model

## **Chatbot**

Chatbot allows the person to learn in the here and now and chat with a "personal learning assistant" that can learn through interacting with the human being to offer a personalised training experience, adjusted to the correct skill level. The chatbot is still guided in this phase that is still at the embryo stage. Linguistic nuances complicate the real learning of the machine and consequently the correct dialogue with the student. The situation is different if a fixed path logic is applied, for example with closed questions, where the variables are limited: in this case the chatbot is an interesting resource.

## **Blockchain**

Together with “digital credentials”, this represents the opportunity to transform the personal skills acquired into a form of “intellectual currency” through their tracking, recognition, sharing and validation, thus ensuring their usability in life and work.

## **Artificial Intelligence**

The construction of learning experiences supported by artificial intelligence, able to suggest individual paths and spur the student on in critical moments are elements on which e-learning is moving rapidly with the aim of accelerating the learning process, without sacrificing the quality of the training experience.

Let's look at a few examples. It is possible to process users' questions and answer them in real time, offering reasoning, advice and clarification to these questions, helping users to discover new topics based on training gaps to be filled, previous courses followed or preferences on the type of courses used (e.g. short video-tutorials, gamification, etc.).

Another area in which artificial intelligence can be useful is content generation. The development of algorithms may make it possible to extract content based on keywords, to be reprocessed for new training resources, created by combining content already existing in the network.

## **Microlearning**

Microlearning is a short training activity that involves use in a short time, on specific topics and it can often be part of a larger program: it is learning of small self-supporting blocks and it can be distributed easily and quickly (an example of microlearning is the Duolingo app).

Students can take advantage of the time to quickly learn some concepts and move on to subsequent modules. Loyalty is greater and it is also easier for content creators to update the content, because it is possible to update only a small part of the training course, without touching the rest. Microlearning can consist of videos, small games, quick reading texts, quizzes and infographics.

## **Virtual and augmented immersive reality**

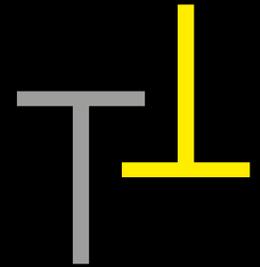
Virtual reality and augmented reality are rapidly growing as important ways of implementing learning content.

These tools make the training very close to the reality with which the student has to deal, either an activity on safety, or interaction with people or with the result of mathematical exercises.

The level of interaction can be very high. In this context, virtual reality is particularly successful in training people with special needs.

An example of an e-learning platform designed to exploit immersive virtual reality in online training is Vroadcaster, which integrates training and education with entertainment, interactive activities and ecommerce (<https://vroadcaster.pro>) .

# EXPERIENCES AND CASES



The convergence between e-learning and publishing is summed up in the care and transformation of content, creating an experience for people who now has a “place” not only on a paper book, but on different devices and formats. Now the same content can be declined in different channels, generating different experiences and people cannot limit themselves to passively enjoy them, but they can become part of it, interact and deepen. Some publishers have been working with e-learning for a long time, creating contents for online training. We know a lot of experiences and contaminations between the world of e-learning and publishing. Last year at the IPDA meeting, the partnership between Libranda and Vivium was presented paving the way for non-fiction publishers to expand their audience: it is just an example of new life of editorial content that I said before.

Finally, I want to mention some interesting cases. I think they can stimulate the discussion and, perhaps, give birth to new editorial projects.

**1.** With the introduction of the GDPR in Europe, Wolter Kluvert has created, as usually, paper books and ebooks to support professionals in this new issue, but not limited to that... Almost in parallel they developed online courses

about GDPR, in 13 different languages and on different targets (for people that work in human resources, marketing and sales, information technology), creating a training package available to companies and professionals.

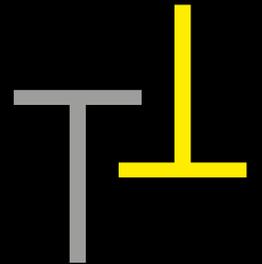
**2.** Jove ([www.jove.com](http://www.jove.com)) is a responsive and mobile-friendly portal that publishes video with the logic of peer review, common for scientific journals. In practice, it is the first and only scientific video magazine with peer review. Over 100 new videos are published every month: the authors belong to research centers and universities all over the world. The “articles” belong to the STEM area and prior to publication undergo a rigorous peer review process by experts in relevant research fields. Videos can be cited in other publications, exactly as happen in scientific journals. Besides the use of the videos, which remain the heart of Jove, it is possible to download an article in pdf, in some cases with a Creative Commons license, with reference to the contents viewed. Jove is a service designed for libraries and institutions. Take a look at it!

**3.** Ebookecm (<https://www.ebookecm.it>) is an Italian platform that has transformed traditional paper books into ebooks. this is not new, but Ebookecm has taken another step forward. Today

they collaborate with publishers - including Springer, Mondadori, the British Medical Journal, Sperling & Kupfer - institutions and training companies, creating and disseminating publishing products as accredited courses for health professionals. When you purchase a course on [ebookeycm.it](http://ebookeycm.it) you can access to a reserved area and download the ebook in ePub, mobi or PDF format and other training materials. After reading the ebook and the materials, you can perform the learning test directly on the platform: simple to use but effective, an easy way to use elearning modalities starting from a text that already exists in the digital format.

4. Bruno Barbieri is a Michelin-starred chef and is also one of the hosts of the Italian edition of the TV format MasterChef, as well as being author of about twenty books. Why talk about Bruno Barbieri and e-learning? Because this year is planning to start his online Academy, an e-learning place in which micro-cooking lessons will be inserted in which he will teach through video and other activities not only to cook, but also to organize a kitchen as a great chef and so on. I quote this experience to make it clear that distance learning is not bound to the scientific, research or university fields, but it can expand into other contexts.

# CONCLUSION



For publishing, e-learning can be a resource in terms of data to be collected and analysed, contributing to a better understanding of its market and trends.

E-learning is already turning into a publisher. The sector must take this into account.

This is demonstrated by platforms such as Lifelearning, Coursera, TEDx and, more generally, the various online platforms that offer training accessible to any websurfer ...

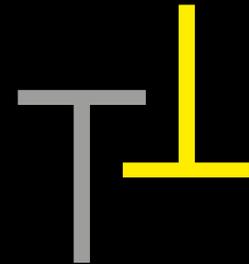
The above statement is confirmed: elearning can become a further channel for the distribution and dissemination of editorial content. This basically means that it can positively affect the revenue.

Of course, I believe that it is necessary, or at least interesting, to start considering to add new skills for a publisher, just as it happened with the digital publishing birth, with the dreation of digital booksellers, ebook developers etc. Why not let operate, in the publishing industry and in product's processes, different skills, expertises of instructional designers, multimedia developers, game developers?

In the current context in which the need for continuous training and deepening is strong in both the professional and "personal" sectors, e-learning is a challenge that the publishing sector (the content industry for excellence) must necessarily accept.

The road is traced.

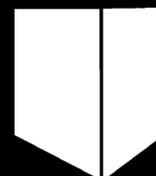
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