# INPACT

# Methodology for using the INPACT e-Learning platform

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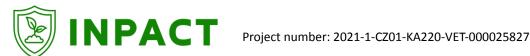
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# Introduction

Information technology (IT) is predicted to become an inseparable element of the private and professional life of the vast majority of citizens in the near future. Without basic IT skills it will not be possible to perform most professional activities, or to update and enhance existing qualifications, or acquire new ones. Obtaining, sorting, processing and using information will also be necessary for many private and professional activities. In the education sector at all levels, and especially under exceptional conditions such as those necessitated by the COVID-19 pandemic, IT implementations in education have developed rapidly and have been widely adopted by schools, universities and other training centres.

# Benefits of e-learning

The term e-learning has become popular in recent years because corporations and universities have applied many implementations of distance learning via the Internet or Intranet. E-learning refers to the delivery of education via computer or telephone.

The advantages of this form of education are manifold, hence its growing popularity. Typical components of e-learning include:

- Content

the core element of e-learning is educational material; it is delivered to the recipient via media such as a cd, a local area network and the Internet;

- Communication

e-learning offers the possibility for the teacher to communicate with the students and for the students to communicate with each other; this traditionally takes place via videoconference, e-mail or chat, but this form of learning does not exclude face-to-face contact;

- Virtual reality

on the computer screen, learners are not only able to simply browse content, but can also experiment, observe simulated events and devices, virtual reality allows them to see working cross-sections of machines, interactive maps, the inside of organisms, inaccessible places, etc.;

- Cooperation

e-learning enables the realization of group work, collaborative learning and joint problem solving, virtual bulletin boards and discussion forums are places to present one's own views and exchange insights;

- Tools

An easy-to-use set of tools (forming the so-called e-learning platform), both for creating learning content and for managing the training process, enables teachers with even little IT training to create learning materials and evaluate their students' work and achievements;

## Self-learning

In e-learning, teacher-student contact is possible via the Internet, thanks to information and communication technology, and takes place in synchronous mode (real time, simultaneous online presence of student and teacher) or asynchronous mode (student chooses his/her own learning time). In the case of the INPACT project, a primarily asynchronous mode is possible when the person interested in the topic can use the training material on integrated plant protection as a response to climate change in his/her own time. This mode has the following advantages:

- flexibility - provides continuous access to learning materials on cd's, web pages or FTP servers from anywhere, anytime, 24 hours a day, 7 days a week;
- individualized learning time and pace, tailored to the needs and abilities of a particular student;
- possibility of self-control of the results obtained;
- time to think about the material learnt, which in a typical lesson is rather short;
- ease of updating and completing sources of knowledge;

However, by far the best intermediary between the learner and the teacher is special software, popularly known as an e-learning platform. It is a combination of a content knowledge database, a discussion forum or chat room, a module for testing the acquired knowledge and skills, and a login mechanism for the learner. Anyone interested can access the training modules with the content knowledge and tasks to be performed via a standard web browser after logging in.

## Self-learning methods for learners

You are yourself the captain, the ship and the vessel

When deciding to self-study you have to decide for yourself:

- What you want to learn;
- When you will learn;
- How you will check your progress.

You will already find these three basic principles challenging. Let's go through the details.

## What do you want to learn?

Set yourself a specific main goal and intermediate goals. This is extremely important for self-learning. First set an overarching goal e.g. 'I want to learn English' and then individual intermediate goals that will bring you closer to it e.g. 'I will learn 1000 words'. For self-study, it is a good idea to divide intermediate goals into even smaller challenges, achievable in the short term e.g. 'I will learn 100 object names this week'. Setting goals like this increases motivation and verifies the acquired knowledge and learning progress.

The disadvantage of self-learning is the issue of choosing a specific main goal and intermediate goals. Since you are not the teacher, how are you supposed to judge for yourself what will be a real challenge that you can achieve and what will be an over-ambition that will lead you to break down?

## Study time

School lessons are 45 minutes long and last from 8.00 to 12.30, college classes are 90 minutes every Wednesday between 8.00 and 20.00, and so on. Such a predetermined framework, on the one hand, puts reality in order, but on the other hand, many people are not comfortable with a strictly defined time and duration of classes. We believe that it will be easier to gain knowledge at times that are set flexibly, based on daily, ongoing plans. This assumption will only be fulfilled by self-learning. Only with this method do you have the opportunity to determine when you will study. You can choose the times of day and week that are most effective for you. Each of us has an internal clock that tells us at what times the mind absorbs knowledge most quickly and, by learning at home, we can take advantage of this.

Unfortunately, choosing your own study time requires a great deal of self-discipline, which most of us lack! Adapting study time to one's personal capabilities is not at all easy, and for several reasons. In the first place, most people tend to put everything off until later.

Secondly, everyone has many responsibilities in their everyday life apart from studying, so that studying often has to give way to work, childcare or housework. Thus, independent learning becomes very inefficient.

### Self-discipline and self-evaluation

Self-directed learning offers the learner many opportunities, but it is also extremely demanding. Those who are highly motivated and disciplined in their learning may achieve some success with this method, but they are in the minority in our society. Most of us feel much more comfortable under the guidance of a teacher or lecturer who directs our learning. Self-directed learning, on the other hand, will work very well as an additional option to support the school course.

## E-learning methods for trainers

E-learning has been a very popular phenomenon since the pandemic, and is being introduced in the world of teaching with increasing frequency even though the pandemic is coming to an end. Many people in the scientific and professional world became convinced of e-learning methods somewhat under duress and the lack of any other educational option when all schools, universities and other institutions were closed. After learning about its methods and possibilities, e-learning has been in use to a much greater extent than it was before.

E-learning can be introduced in three different ways so let's see what are the forms of e-learning:

- Synchronous
- Asynchronous
- Blended/hybrid

The question arises which form is the best. Well, there is no best one - You need to adapt the way of teaching to the group and its needs and capabilities. For some, it will be more effective to have joint online meetings where you work through the material together, while another group will prefer to work through the material individually, each in their own time. So, as an educator, you need to recognize what will make the most sense for a given group and what will bring the greatest learning results.

### Synchronous learning

In this form of remote learning, classes are held online on a specific communication platform and in a specific time slot. Students together with the educator learn the course content

based on the textbook, materials, presentations. In this form, the educator has the freedom to prepare the classes in a more interactive way. This is because the transfer of knowledge can take place in a variety of ways using materials. There are a number of activating methods, such as brainstorming, panel discussion, case study, drama, simulation method, brain map, didactic games, which engage the student, making the knowledge better absorbed. It is the form that is most similar to classroom teaching and allows individual and group work, interaction between educator and students, better assessment of students' knowledge and monitoring of their work.

Unfortunately, it also has many downsides, however, which make communication and knowledge transfer more difficult. Technical difficulties of audio-visual equipment, lack of Internet connection, access restrictions, scheduling difficulties and various other obstacles may prevent some students from participating in synchronous classes.

## Asynchronous learning

On the other hand, the form of asynchronous learning using the e-learning platform as the base for the training sessions is far more flexible and allows individualized learning to meet the specific needs and time capabilities of students. The participant of the course can decide himself at what hours he sits down to study and in what time frame he will finish the course. Each participant has access to the materials on the platform 24 hours a day, 7 days a week, and can access them when it is appropriate for him/her by following the educator's instructions. To support learning, the educator can pre-record lectures or training sessions with exercise instructions or explained theoretical material. Further, it is possible to contact the educator by email or phone if necessary. However, there is more freedom in this form in terms of time and methodology. The course participant decides for himself what form of learning and what learning time is most appropriate, while remaining in constant contact with the educator.

The disadvantages of asynchronous teaching are the lack of direct interaction with the rest of the group, the lack of regular contact with the instructor, and the inability to verify and monitor the progress of learning during the course, which makes it difficult to help students individually. It also requires greater self-discipline on the part of students, which can be a challenge for many.

## Blended learning

The blended learning method is in fact a combination of advantages from both previously described forms of teaching. It combines both direct contact on the communication platform with the educator and self-learning. The students have the chance to talk to the educator in

real-time and work in groups, exchange ideas and afterwards they can work on their own choosing the time and place of further study sessions according to their own needs while working on the e-learning platform.

It's a very good solution for bigger groups and the educator can address the needs of both types of learners. It's also more economic for both the educator and the trainee by reducing costs for travel or room rental.

## Blog and forum

Online forums are one of the oldest ways of communicating on the Internet that is still effective and useful. They give users the opportunity to create virtual communities, connect with others, chat, share ideas and support each other.

Such forums have existed since the early days of the Internet and are one of the oldest types of online communities. In the age of social media, discussion forums still play an important role in online communication, especially on specialized and specialized topics, where participants can find insights, more advanced and detailed knowledge and knowledgeable interlocutors.

Instead, what are the advantages of a blog? First of all, a blog can perfectly build the trust and credibility of the training. It can be a great extension of the content available on a given platform. It allows you to add "something from yourself" based on your own experience to the content provided by the project team.

Users are much more confident during training when they know they are dealing with specific people. With a human approach. With a person presented by name, having an image and being able to express their opinion on a specific topic and with the precision needed for the situation. Blogs are a great place to build trust. Author's posts help reveal your personality and convince users that the person is somehow right in front of them.

# INPACT Platform

The e-learning platform is based on the needs, which have been expressed by the stakeholders and our target group in the survey of needs in the first stage of the INPACT project. The majority of the target group is digitally literate, 73% is using the internet every day, 18% is using it a few times a week. The most preferred tools are videos, factsheets and printed materials. Accordingly, the INPACT consortium developed informative videos about pest control, infographics and teaching modules available on the INPACT platform. All farmers and experts can profit from the user-friendly and easily accessible platform including all important topics on different methods of pest control.