

PROWIDE

Online Proctoring Manager

Further education program for supporting digital transformation at
Higher Education Institutions



Change management for adopting proctoring in HEIs

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MODULE 7: CHANGE MANAGEMENT

What we will talk about

- Change management **in general**:
 - How to implement change ? What to focus on ?
 - Steps for a correct implementation
 - Evaluating benefits, risks and future prospects.
- Change for **HEIs**:
 - Why chooses proctoring ?
 - How to implement and use proctoring SW
 - How to manage the proctoring ?

What does change management mean ?

- Change management can be defined as the set of planned activities aimed at implementing a given change in the processes occurring in companies, education institutions (HEI) and more in general in groups and communities.

Steps of change management

- The 4 points of attention for a fruitfully change:
 - to involve people,
 - to reorganize processes,
 - to introduce technological platforms
 - to decline work between physical and virtual places
- Aim: to hit the objectives with specific/personalized stages

Does the strategy of small changes work ?

- Gradual and smooth approach to change could help, but...
- The ideas that little changes could work without any systematic intervention could fail.
- Small changes could be not enough in some cases
- However, change management is mandatory in order to prevent negative effects.

The 4P model

- An effective and fruitful change management is always build over 4 pillars, according to the so called 4P model:
 - People
 - Process
 - Platform
 - Place

People

- First step: to change people's mentality and culture
- Two extreme psycho-social positions exist:
 - **fixed mindset**: a thought static that refuses novelties
 - **growth mindset**: a mindset inclined to learn & innovate
- Example:

In eLearning for elementary and high school is useful to involve parents, etc. in traditional to online transition.

Process

- Without new processes, even the most innovative technology is doomed to fail.
- It is need to **evaluate the scale**, the extensions and how in depth the innovation is impacting the company.
- The first step is an analysis of one's **legacy system** in order to point out the application or component that the company has or perceives as inherited value from the past.

Platform (1/2)

- **To not govern the change can cause severe problems in HEIs:**
 - failure in updating the learning methods and strategies,
 - a loss of feeling with new generation of students (natively digital)
 - a loss of the competitiveness with respect other HEI competitors.
- **Change → adoption of new collaboration/communication tools for:**
 - personal productivity
 - collaborate and communicate in a simple and immediate way
 - cloud sharing and computing

Platform (2/2)

- Platforms for e-learning, sharing & co-working tend to marry with the new frontiers of individual & group work and study
- These technologies leads to numerous advantages:
 - respect for objectives
 - respect for deadlines
 - respect of the budget
- Increase in return on investment (ROI)

Places (1/2)

- **Workplaces in HEIs need to be rethought** with a view to an activity-based workspace and smart working.
- Workplaces are such (even if online) because a platform has made them so.
- In HEIs innovation learning & evaluation platforms merge:
 - On eLearning platform the teacher can take exams, question a student & collaborate with colleagues, such as in physical workplace

Places (2/2)

- With **smart working in HEIs**, the challenge of change management finds a perfect synthesis between a culture of change and digital innovation, allowing:
 - Performance optimization
 - Efficiency and savings
 - Worker satisfaction

Design thinking (1/3)

- The best method to manage the change process in general is the application of ***design thinking*** managed in an ***Agile way***.
- Even though the knowledge is intrinsically immaterial, the management of change (in the processes devoted to learn, generate and share knowledge) is based on physical structures and human actors, institutions and dynamics.
- Therefore, to apply in EHIs methods developed in industrial framework or in the engineering of systems is also particularly appropriate.

Design thinking (2/3)

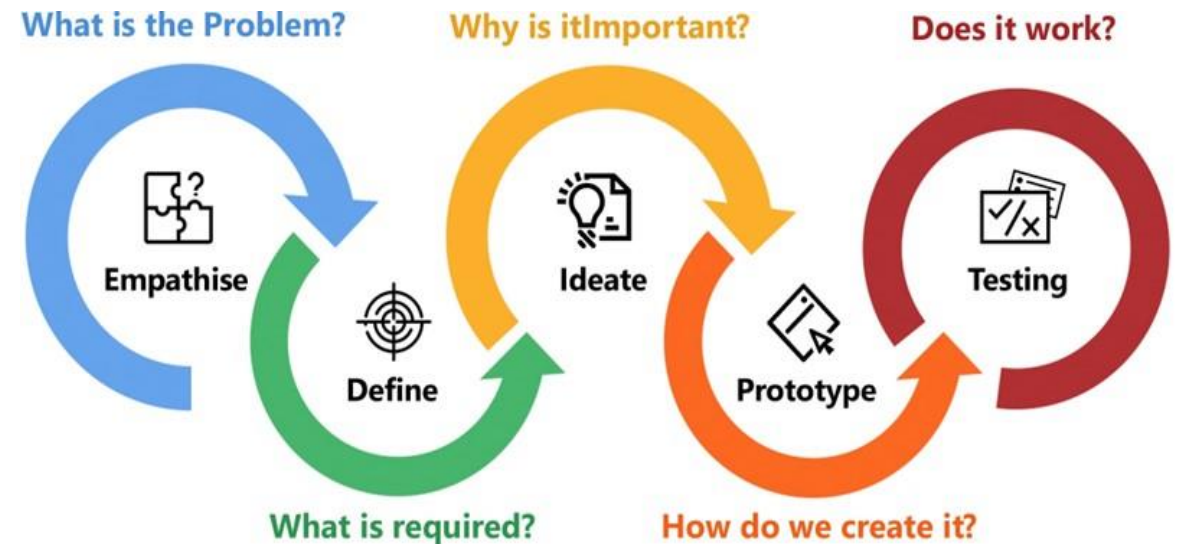
- Design thinking is a methodology codified in the early 2000s by Tim Brown, CEO of the Californian Ideo.
- It is defined as a **human-centered approach** that draws on the designer's tool-kit to integrate:
 - the people's needs,
 - the possibilities of technology
 - the requirements for business success.

Design thinking (3/3)

- Design thinking asks taking into account the 3 main aspects:
 - human,
 - technological,
 - economic.

Agile methodology (1/3)

- The AGILE method is developed in five iterative phases:
 - empathize (understanding),
 - exploring,
 - define (ideate),
 - prototype,
 - testing.



Agile methodology (2/3)

Agile involves close collaboration between:

- **product managers**

and

- **developers**

for continuous testing of subsequent releases and the definition of incremental requirements, as well as close interaction with the **customer** to develop valuable products.

Agile methodology (3/3)

- The Agile method allows a greater reactivity to requests.
- **Anyway this must not turn into a condescending attitude, losing sight of the real usefulness of the results**



This is particularly relevant in online learning & exam

- Therefore, the Agile methodology of working should be always integrated within the company and sequential.

The scale of the change

- It is needed to understand the actual extent of the change
- How many units are involved? → **To size the initiative**
- Large-scale or local change → strategic or tactical activities
 - **Large-scale**: the change affects the global organization
 - **Local-scale** (department): change of customer service can be envisaged that involve a small number of stakeholders

BIA: Business Impact Analysis

- Business Impact Assessment (BIA) aims:
 - to analyse type and degree of change within an organization
 - to identify expected impact
 - to deploy the activities aimed at mitigate any negative impacts
- through the different stages of change:
- To define the essential functions.
 - To evaluate the risks based on the priorities chosen by HEI.
 - To prepare the social partner.

Implementation costs

- Cost of **personnel**
- Cost of change management **software tools**
- Cost of the **premises** used for change management
- Cost of the **hardware**
- Costs for **external consultancy**

Gamification (1/2)

- **Gamification: a tool for evaluating project success** in relation to pre-established objectives
- Gamification can drive important transformations for employees, whether it's a **cultural shift or a realignment of processes and habits**.
- In all these cases, gamification efforts are centered on adapting to an environment that is constantly changing.

Gamification (2/2)

- Gamification can be an option more efficient than traditional systems, thanks to high rates of engagement and retention of the content learned.
- Advantages found:
 - Playful representation of a concrete task to be performed.
 - Involvement of employees in the learning process
 - Immediate feedback on the learned content

Monitoring classes and exams in eLearning

- How to control and evaluate students at distance ?
 - **To check the identity**
 - **To check the attention during lessons**
 - **To avoid the risk of any copying at the exams**
- With the massive spread of eLearning, the need arises to identify new ways to test the performance of students.

Proctoring

- How to evaluate the students attending at lessons or during online exams by taking into account the possibility of cheating ?
 - They could be distracted at lessons or copy in the tests
 - They could communicate between them during the exam



- **Proctoring:**
 - **identification** of the student
 - **supervising** the correct execution of the activities

Proctoring for classes and lessons

- During **online lessons**, proctoring procedure can help to maintain control of the class and the eLearning activates by checking in real time:
 - if students are distracted or
 - if there has been a change of person (unfortunately often frequent).
- This represents a strong foundation of integrity in eLearning, as it represents an important index of prestige.

Proctoring for online exams

- During **online exams**, proctoring procedures can indicate whether during an online exam the students are cheating.
- The technology would make it possible to detect, for example, the presence of a prompter near the student, but also the position of the head and the trajectory of one's gaze, evident "symptoms" of the possible presence of hidden notes.

From manned to SW proctoring

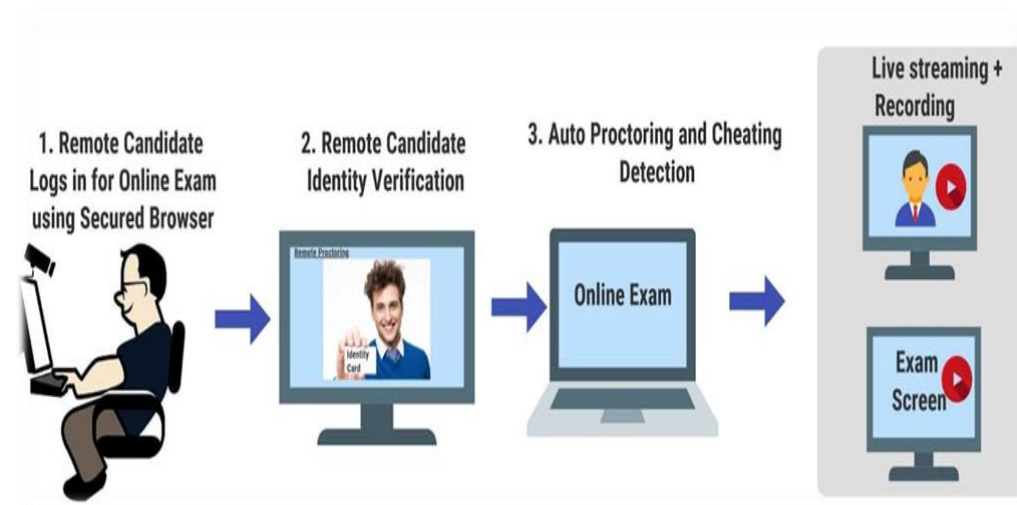
- The online proctored exam is an examination method characterized by the supervision of an examiner called **proctor** whose role is to monitor the progress of the examination and its process.
- The proctor can be a teacher or a person devoted to surveillance by remote.
- But nowadays the proctoring is realized through devoted software that execute the control with several degree of automation.

Proctoring SW

- There are different proctoring software:
 - SW to be installed on the PC
 - SW without the needs of installation.
- In both cases the proctoring SW works in parallel with the platform for eLearning (Google Suite, Teams, Zoom, etc.)
- Proctoring SW controls each exam (online or in person) making audited assessments accessible to anyone, anytime, anywhere.

What proctoring SW checks in online exam?

- **Automatic control:** the students environments are monitored for sound and movement.
- **Registration control:** the exam is recorded to be reviewed once the exam itself is completed.
- **Live control:** A supervisor, in live, checks the students taking the exam



Types of proctoring

- **Live online proctoring:** A qualified supervisor monitors in real time candidates for audio, video & screen sharing feeds
- **Recorded proctoring:** No supervisor monitors the feed in real time, but the test candidates' audio-video and screen-sharing feeds are recorded during the exam.
- **Advanced automated proctoring:** In addition to recording audio-video and screen feeds of candidates, the system automatically monitors/identifies suspicious activities.

The HEI's proctoring revolution

- How to manage proctoring in HEIs ?
- The change is seen by each person in a different way.
- How to manage the social partners involved ?

Proctoring & teachers

- With the proctoring SW it will be necessary to prepare new procedures **to train teachers** in the use of the software.
- **The technical staff must provide continuous service** for supporting teachers in case of inconvenience in the exams.
- This is a mandatory requirement **to guarantee a robust and reliable system**.

The impact of proctoring on the teachers

- Automatic proctoring → teacher additional efforts and time:
 - **To adapt the exams** to the new way
 - **To create quizzes**
 - To understand how **to interpret the warning videos.**
- False positive alarms → teacher has to check video records
- If the online proctoring fails → further sessions of exam.

The change of exams with proctoring SW

- With proctoring SW procedure also the exam tasks could need to be changed (at least partially):
 - To randomize the questions
 - To set a timer
 - To ask problem solving questions

Proctoring & students (1/2)

- Student's steps before the exam
 - to connect to the platform → exam section
 - to carry checks of environment, audio, video, etc.
 - to personal identification (with identity card, etc.)
- During the exam
 - The SW evaluates any suspicious movements and marks / highlights them in order to allow the teacher to review that specific moment and to understand whether, in fact, the student was copying or not.

Proctoring & students (2/2)

- Proctoring SW controls movement and gaze...
- Recording of audio-video of suspicious movements and actions...
- The warnings are raised for suspicious (but often also for innocent events)...

Online Proctoring Manager

- Higher education institutions need **protectionists** to develop, implement and manage the online proctoring strategy within their institutions.
- It is necessary to develop, test and establish a qualification profile and a corresponding training program for peoples aimed at supporting the implementation of remote exams.
- The need of **training the professional figure of the OPM**

How to implement proctoring?

- Efforts of the HEIs at different levels, such a:
 - managers,
 - teachers,
 - education and examination offices,
 - IT departments, etc.
- **OPM should have an interdisciplinary qualification profile** which embraces the issues of data protection, education law, technical aspects, communication with internal and external stakeholders, management skills.

Training of OPM and system engineer

- The training of **OPM** is focused on the specific skills:
 - To manage managerial and business infos related to the purchase of the SW, define its characteristics, utilities and functions, etc.
 - To manage the main failures or malfunctions of the SW (with the help of IT technician)
- The **system engineer**, instead, will take care of managing the maintenance, with periodic reports about cases & failure.

Advantages of proctoring (1/2)

- For test takers (e.g. students), proctoring systems offer the opportunity **to complete online assessments in a variety of times and places** depending on convenience.
- **Flexibility:** remote controlled exams can be unscheduled and immediate, delivered with Internet-based tests.
- **Data management:** all data of candidates, video and audio logs, screenshots, etc. are available for future reference.

Advantages of proctoring (2/2)

- What will be the benefits of online supervision for the HEI ?
 - For all test administrators, digital tools that support remote supervision **provide a reasonable level of security** for exams taken remotely.
 - Also, for online universities and MOOCs, it provides validation for online education.
 - For recruiters, **it significantly reduces the logistical requirement of entry-level hires** and thus the hiring time and cost of hiring.

Present & future features of proctoring SW

- Enhance candidate authentication
- Biometric sensors useful to monitor suspicious actions
- Facial recognition, detection of background audio and noises
- Keyboard behavior analysis.
- Head movement, position and lighting analysis

Privacy

- Monitoring systems for online exams seem to have a potentially **big problem with privacy and data processing**.
- In some cases, proctoring has sparked a big debate on this issue, and students expressed their opposition to the adoption of these software which, in addition to saving student records for the entire exam session, acquire a large number of data and metadata.

Proctoring & GDPR

- The proctoring SW must be compliant with the directives established by the GDPR, declaring its commitment to guaranteeing protection and security in the processing of personal data.
- But, in some cases data collected by proctoring SW are transferred to servers located out of EU (e.g. in the US), and stored for 5 years, unless the licensing institution requires a shorter retention period...

THANK YOU

