How Blended Learning Can Provide Answers for Training in the COVID-19 Pandemic: Experience from France

Magali Lopes[1]; Maxime Roger[2]

[1]Siemens Healthineers, Saint Denis, France
[2]Siemens Healthineers, Ronchin, France

Sincere thanks to the radiologists Professor Verclytte and Professor Budzik, and to the entire team at Hôpital Saint Philibert!

Introduction

The current pandemic is creating complications for day-to-day exams, work, and organizational tasks. Healthcare providers have to respond agilely to new events every day, and they must always put safety first. As of February 2021, more than three million people in France had contracted COVID-19. (https://www.gouvernement.fr/info-coronavirus/carte-et-donnees)

Isolation makes it possible to contain infections and reduce the pressure on the health service. When a person tests positive for COVID-19 in France, they must give their health insurance provider a list of everyone they met over the past few days. The insurance provider will then instruct the contacts to self-isolate for several days and take a test.

Many hospitals have had to adapt their processes because of the pandemic. Since the beginning of the pandemic, Siemens Healthineers has been working hard to find the best ways of responding to the situation. Its digital services have allowed the company to continue delivering all the support its customers need during this challenging period.

1 The team at Hôpital Saint Philibert, Lille, France

Blended learning

Mixing different training formats (blended learning) is a key feature of learning today, and it has become even more important since the COVID-19 pandemic began. Blended learning provides flexibility and allows direct customer contact without the need for physical presence and travel. It enables people to learn without the pressure of exams and patient handling – and it is a good way of adapting the learning path and format to the individual user's needs.

The customer

Hôpital Saint Philibert is a private university hospital that is part of the GHICL group in northern France. It focuses heavily on neurology, musculoskeletal (MSK), and liver examinations.

Professor Verclytte (neuro, brain perfusion) and Professor Budzik (MSK, diffusion tensor imaging) are well-known within the scientific community and have published numerous papers. The hospital's MRI system is shared with two other private institutions (HPVA, IRIS).

The site, which performs around 6,000 MRI scans per year, has various devices from Siemens Healthineers: 3 remote-controlled fluoroscopy systems, 4 mobile C-arms, 1 interventional angiography system, 1 MRI system, 2 CT scanners, and 2 picture archiving and communication systems (PACS).

The hospital has a large stroke care unit, which treats between 10 and 15 strokes per week.

The challenge

A two-week handover onsite training for a 3T MAGNETOM Vida scanner was scheduled to take place at the hospital. However, an unexpected event led to a change of plans.

The first week of onsite training went well, but at the end of the week one of the technologists tested positive for coronavirus. In line with French regulations and the policy in place at Siemens Healthineers, the onsite training had to be stopped.

The application specialist therefore had to quickly adapt the second week of training, moving it from onsite to online. This was possible thanks to the customer agreement, good reactivity, and the necessary IT infrastructure.

Moving the program online allowed the second week of training to go ahead as scheduled. Without this solution, the technologists and radiologists would have had to postpone their training. This would have potentially impacted exam quality due to the lack of ability to optimize sequences, and would have caused problems in patient scheduling. Without full training, the team might have been unable to perform some exams, particularly since they used to work with a different vendor's system.

We were able to respond quickly to the situation and provided transparency from both a customer and patient perspective.

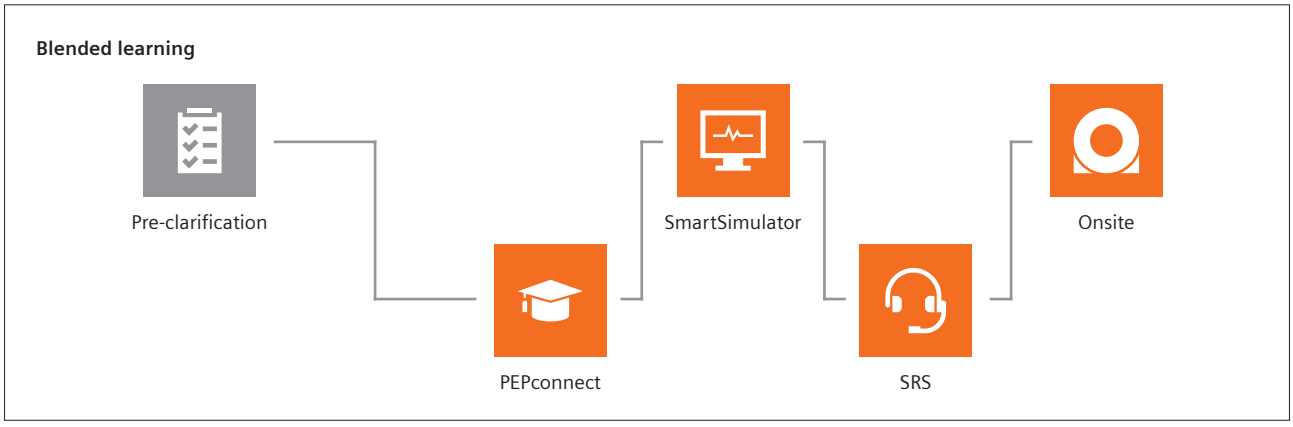
Online pre-clarification

To create the best conditions for learning and to optimize the training for the customer, the application specialist discusses the program with the customer by phone and email one to two months before the training is scheduled to take place. The conversation allows the application specialist to be sure that the training will fit the users' needs.

It is important to have information about patient throughput and exam duration at the customer site, as this will help with exam scheduling for patients and planning holiday times for clinical staff.

PEPconnect

PEPconnect is one of the training pillars. This online platform provides customers with free access to more than 8,000 learning activities, 600 of which are available in French. As a pre-training tool, PEPconnect improves



2 The four pillars of blended learning: PEPconnect, SmartSimulator, Siemens Remote Service (SRS), and Onsite support.

efficiency during the handover, allowing a strong focus on image quality and smooth exam workflows. It also enables learners to complete their training activities from anywhere, and at any time.

Through PEPconnect, Siemens Healthineers can provide a fully personalized training path for users. For Hôpital Saint Philibert, more than 20 different learning activities were provided. The content covered MRI safety, the use of different software features, memory aids, and shortcuts in a highly interactive way, including videos. Figure 3 shows the hospital's training path and the training progress of the site staff.

SmartSimulator provides a virtual classroom

SmartSimulator online sessions last for two hours and involve the application expert sharing their screen with participants to present and explain how to use the new system interface. Eleven technologists from the Saint Philibert team participated. The aim of the sessions was to allow the technologists to familiarize themselves with using the software and to answer their questions about the PEPconnect content and software features.

Once participants have subscribed to PEPconnect, participating in a virtual classroom is as simple as following an e-learning session.

Image demonstration

Image-quality requirements were defined via demonstration. During a Microsoft Teams meeting, a *syngo*.via clinical demonstration expert showed different images from cardiology, neurology, MSK, and whole-body exams on a *syngo*.via server.

The customer could choose the images they wanted to work with before the onsite training began. The application specialist then adapted the protocols in advance to meet the customer's expectations.

Onsite training

During the first week of customer training, an application specialist was onsite to deliver the agreed training. As various e-learning activities had already been provided to the technologists and radiologists, they were well prepared for using their new equipment. The work done before the installation (importing protocols for the customer) enabled easier and quicker system handling and allowed the team to concentrate on learning.

Smart Remote Services: Remote Trainer

The second week of training was scheduled to be onsite. However, due to the COVID-19 case in the team, it was decided to move the training online.

Smart Remote Services (SRS) is the infrastructure that enables Siemens Healthineers to provide customers with technical and application support for all equipment connected to the service.

This solution provides quick and secure access to an application hotline for answers to any questions (as part of the French Service contracts). It also offers access to Remote Trainers who can respond to ad hoc training needs. This is the tool that allowed the second week of training to take place online.

Participants shared the acquisition screen with the application specialist via the secure SRS link, and a Microsoft Teams meeting enabled direct contact and live communication throughout the remote training.

After the MAGNETOM Vida handover, additional training is also provided during the warranty period. This began two weeks after installation and continues for one or two years. The sessions are used to optimize the scanner and its protocols, to review cases that were not covered by all the technologists, to evaluate complicated exam cases, and to ensure that everyone assimilated the relevant knowledge.

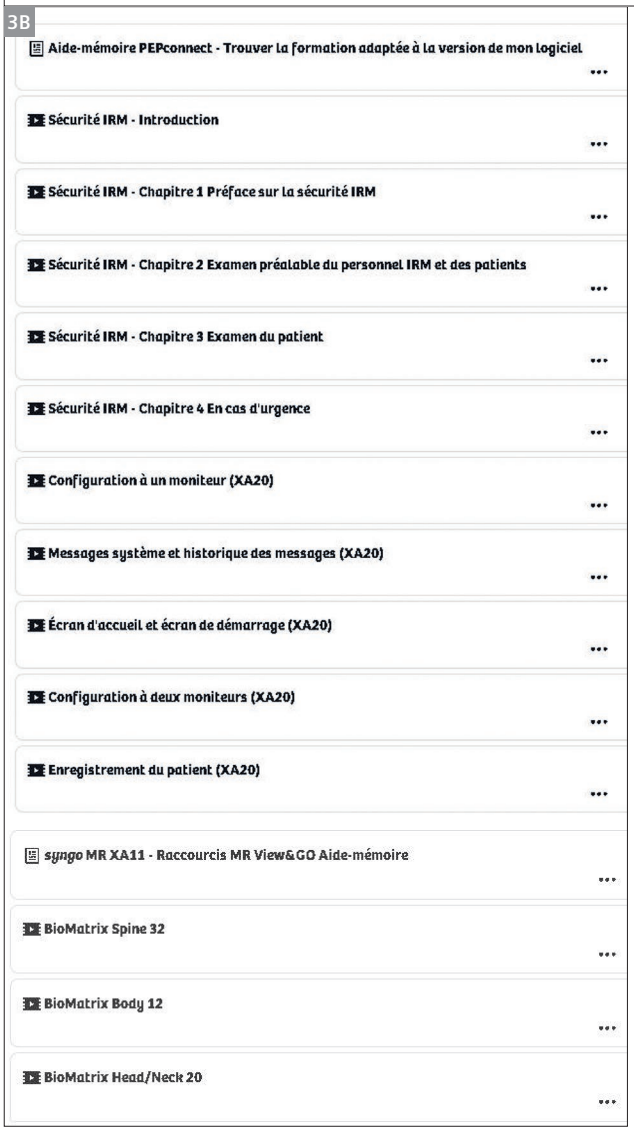
Potential challenges for virtual remote training

The right IT infrastructure is key to the success of virtual remote training: a computer, a wireless connection, Microsoft Teams, and a good microphone and camera are all important! Although everyone is socially distanced, Siemens Healthineers works hard to make the training as personal as it would be if it were delivered onsite.

The IT department at Hôpital Saint Philibert provided the team with everything they needed. One element not to be underestimated is the importance of testing that everything is working properly before the training starts. This will help to avoid any breakdowns in communication caused by faulty microphones or cameras. The MR system was monitored using TeamViewer.

Feedback

Professor Sébastien Verclytte, a neuroradiologist and head of the radiology department, said: "The face-to-face and distance learning has been very effective. The technologists are more involved in the acquisition during the remote training, and they have more control and can work on the system while being supervised by the application specialist. There are less errors in the acquisition of sequences because the technical parameters are verified in real time by the application specialist.



3 Training path and the training progress.

The remote link to the application specialist also avoids too many people being in the same room at the same time. The technologists had access to the screen simultaneously with the application specialist, which was very convenient for them."

Conclusion

Within the current pandemic, blended learning can reduce risk, enable social distancing, and make it easier to respond to customers' needs. These were exactly the benefits of blended learning at Hôpital Saint Philibert. Siemens Healthineers has many solutions that can make organizing and running the training completely transparent and smooth for the customer – even when COVID-19 forced us to change the planned training method from one day to the next.

Contact

Magali Lopes
Siemens Healthcare SAS
SHS EMEA FBA FRA CS BS
40 avenue des Fruitiers
93527 Saint-Denis Cedex
France
Phone: +33 617109514
magali.lopes@siemens-healthineers.com

Maxime Roger
Siemens Healthcare SAS
SHS EMEA FBA FRA CS APP DI&AT1
Postbox 3
59790 Ronchin Cedex
France
Phone: +33 625362257
maxime.roger@siemens-healthineers.com