

Digital learning: how to improve knowledge and skills for law enforcement managers

Laurent Chapparo

France



Abstract:

Digital learning leads to innovation and evolution in law enforcement training and education. Training structures and departments have to build strategies to educate a large range of audiences. Facing the security challenges, police academies are compelled to professionalise those who are in charge of education. It requires not only experience to share but also pedagogical, communication and digital skills. Digital learning is a tool and also a lever to facilitate learning and training. We live in a digital world not only in our professional practices, but also in the way we learn and share knowledge and know-how.

Keywords: digital learning; skills; constructivism; education assessment; serious gaming; simulation.

When the first digital learning project in the French gendarmerie officers' academy (Ecole des officiers de la gendarmerie nationale — EOGN) was launched in 2012, international literature and external good practices provided good support. Different needs were identified, as well as means and hurdles. Experiments with different training targets have brought a lot of information not only about the learners and attendees but also about the training and support structure. Digital learning offers a range of educational approaches from 1.0 to 2.0, for example e-learning, blended learning, digital campus, serious gaming, simulations, MOOCs (massive open online courses).

The assessment of such projects is based on studies of the use of the learning management system (LMS), by studying individual connection files and by surveys. A number of critical success factors have been revealed: change management, training of trainers, awareness and partnerships.

This paper deals with educational ideas and concepts, including behaviourism and constructivism, considering requirements which compel programme designers to propose technical and pedagogical solutions to different audiences.

The aim of this paper is to present a 'lessons-learned' case about the practice of digital learning dedicated to managers, which has been implemented in the EOGN since 2012.

Now a powerful tool for pedagogical modernisation, innovation and motivation, digital learning comes across as one of the keys to successful learning rebuilding. Indeed, since the end of the 20th century, society has changed, and so has our relationship with learning. Mainly driven by the new information and communication technologies (NICT), we have become a knowledge society, where we learn throughout our private as well as professional lives.

The terminological shift from 'student' to 'learner' reflects this evolution.

In 2012, in accordance with a strategy from the headquarters of the French gendarmerie, the EOGN took a new, digital turn by integrating e-learning processes. Three years on, thanks to the creation of a digital campus and the development of digital pedagogical tools, mainly in simulation and serious gaming, the EOGN launched a global digital learning strategy.

Therefore, armed with these 4 years of experience, and in order to increase officers' employability and adaptability, the time has now come to reflect on the lessons learned, and to focus on the current and future digital-learning strategy orientations at EOGN.

Digital learning: between learners' and EOGN's needs

Between 2012 and 2015, in partnership with the CP-MGN ⁽¹⁾, the EOGN led blended learning curricula based on OPALE Scenari[®] modules, hosted on a Ganesha[®] LMS. This experience taught us lessons about how far e-learning meets the needs for both learners and the EOGN.

Digital tools are a great incentive for learners

According to a study and analysis report on digital learning in EOGN written in 2015 (Jaffré, 2015), 80 % of the 223 cadets surveyed estimated they had gained new knowledge thanks to e-learning. More generally, 54 % wanted to use e-learning. Indeed, nowadays, we have to take into account the fact that rookie learners are digital natives — they are experienced users who are connected at all times, and thus they do not need to be trained to become familiar with computer and communication devices, like the previous generation(s) did. They are able to incorporate NICT quickly and naturally into their learning process in order to access knowledge anywhere, anytime and on every digital medium. This daily use of NICT in their private and professional lives is a reality, or even a need, to the extent that the limit between these two digital spaces often gets blurred. This observation, which appears as a paradigm for digital sceptics, must be taken into account by learning and training structures. Nowadays, teenagers favour YouTube and forums over books, and therefore learning methods need to adapt to the new generation's preferences. Therefore, before starting to design a curriculum, we have to answer one crucial question: who are the learners? Nevertheless, so as to preserve a human dimension and avoid hyper-technologisation and rationalisation (Ardouin, 2013) in the learning process, it appears fundamental to install safeguards.

⁽¹⁾ Centre de production multimédias de la gendarmerie nationale (French Gendarmerie multimedia production centre).

Digital tools and learning flexibility

Some 75 % of cadets surveyed thought that e-learning is one of the best ways to manage their learning efficiently. Faced with training programmes which are more and more intense and time consuming for the learner, 49 % of respondents estimated e-learning had saved them time. Indeed, this saved time could be used for deep learning processes ⁽²⁾ for better comprehension and memorising of knowledge. Finally, through self-sufficiency and self-confidence, e-learning leads learners to be self-responsible in their learning and training.

Necessary leadership of teachers in e-learning

Only 11 % of cadets surveyed felt alone when tutoring and tracking ⁽³⁾ was driven by teachers. In fact, e-learning without tutoring is doomed to fail. Indeed, effective tutoring and tracking not only allows teachers to galvanise learning but also prevents learners from dropping out. During training, clever tracking permits problems and possible drop outs to be detected earlier. In this way, teachers could lead in-advance tutoring as well as reactive tutoring. With in-advance tutoring, a teacher has enough time to prepare effective solutions to future problems, and therefore is not caught off guard when the time comes. Thus problem-solving can happen imperceptibly for the learner or could be used as a dedicated pedagogical tool by the teacher from a socio-constructivism perspective ⁽⁴⁾. Moreover, nowadays, teachers' leadership meets the need of learners to earn knowledge not only by the way of behaviourist methods, but also by a collaborative and socio-constructivist ⁽⁵⁾ process.

Learners need time markers and reference points in their curricula

Throughout their training, a learner must get their bearings and know where they stand on the timeline. This

⁽²⁾ Comprehension — conceptualisation — memorising.

⁽³⁾ Tutoring: learning relationship and actions between teachers and learners.

⁽⁴⁾ Tracking: pedagogical exploitation and use of LMS data and statistics from the learner's activity.

⁽⁵⁾ Students 'construct' their lesson themselves — with their own knowledge using modern methods like workgroups, wikis, glossaries, etc. In this process the teacher is more a mentor than a traditional teacher.

⁽⁶⁾ A pedagogical method which is one of the bases of 2.0 learning. It aims for learners to build their knowledge thanks to NICT, collaborative tools and social means (experience, conflicts, autonomy, etc.). It is supervised by a teacher who is more a tutor than a teacher (Wygostky ou Piaget). It is opposed to the behaviourist method (Pavlov, Skinner, Locke).

observation allows the learner to manage their training and organise their different studying and free time.

Learning departments have to propose to learners time markers such as a curriculum year projection view, length of the curriculum, segments and courses, skills and goals aimed at, whether they are formative exercises or assessments, both on-site and as e-learning.

Attractiveness and teasing

E-learning modules must be attractive not only in content but also in style. Moreover, in order to avoid cognitive overload ⁽⁶⁾, they have to be cleverly balanced in depth, regarding the technical level of knowledge, and in length of time. So as not to fall into the pitfall of Las Vegas syndrome ⁽⁷⁾, e-modules must have individualisation capabilities for learners. In addition, as 68 % of cadets surveyed connected to LMS from their homes, it is required that e-modules be designed with web-responsive and mobile-friendly capabilities in order to ensure accessibility anywhere and at all times. Finally, e-modules must incorporate balanced rich media ⁽⁸⁾.

After focusing on learners' needs, next are the needs of teaching structures. Indeed, just like learners, training structures have needs.

Towards more flexibility

Just like a learner, e-learning enables a training structure to gain flexibility. This process is based on three key elements: saving time; saving resources; saving money.

Refocusing and network strategies

Digital learning allows training and learning structures to gain flexibility thanks to self-sufficiency. Schools and academies should increasingly strive to free themselves from intermediary agents during the designing and driving parts of the learning and training curricula. For all that, they have to improve their school and academy networks.

⁽⁶⁾ Capacity for a learner to understand and memorise a certain amount of information (the depth) in a balanced and accurate time (the length).

⁽⁷⁾ The pitfall of trying to change a learner's needs before their training by using e-learning modules which aim at general needs.

⁽⁸⁾ Multimedia resource integration — such as movies, pictures, sounds, animations, hyperlinks, etc.

Academies must be attractive

First, this necessary attractiveness depends on quality and expanded curricula and content offered by the training and learning structures. The quality factor is ensured by internal control processes ⁽⁹⁾, by strong and coherent learning engineering and by making use of training and learning assessments and surveys filled in by learners.

Second, capabilities to offer mass learning ⁽¹⁰⁾ curricula, having in mind the geographical dispersion of learners, should be looked for as much as possible.

Training, support and acknowledgement for teachers

Nowadays, all teachers and instructors are digital managers — or have to be. We are at the forefront of a vital process to convince digital sceptics. We therefore have to demystify the 'false-expert syndrome' of the digital manager, behind which digital sceptics hide. First, this strategy is based on lifelong support and training on NICT and e-learning processes for teachers. The main aim is to show that pedagogical digital tools are user friendly, pleasant and attractive. Second, teachers recently trained to get familiar with NICT need acknowledgement from their line management based on a strong communication policy.

It is based on these observations that the EOGN has been building its digital learning strategy since 2015.

Daily and future digital learning strategies of the EOGN

The current EOGN digital learning strategy is based on four pillars, as detailed below.

First pillar: strong, coherent and built-in learning engineering

Not long ago the learning division was revamped in order to better match the learning process and to increase the use of new digital tools which have lately been rolled out.

⁽⁹⁾ Before providing a course to learners it is checked and tested by a college of trainers in order to improve and certify its quality. This process was implemented successfully at the French Gendarmerie research centre between 2013 and 2015.

⁽¹⁰⁾ MOOCs, e-learning, virtual classrooms, etc.

The digital learning strategy of the EOGN is based on a built-in architecture of learning engineering. On the one hand, this architecture is set up by a decision-making process. It consists of four logical steps: the first one stands for an appraisal of the learners' needs and the last one is an assessment/survey on the curriculum. On the other hand, this means that all agents and training departments of this academy are integrated into the engineering and design process, along with the scheduling department. Furthermore, our learning engineering is led in accordance with a reference document (cadet training framework) which was drafted by the French gendarmerie headquarters. This key document is currently being reshaped in order to comply with the current security issues.

Second pillar: Moodle, socio- and co-constructivism levers

Since June 2015 the EOGN's digital campus has migrated from the Ganesha LMS — which had become outdated — to a Moodle platform. As previously stated, e-learning allows trainees to manage their learning time and to slow down the often fast pace of training in favour of 'deep learning'.

Furthermore, thanks to efficient mentoring by the trainers associated with pedagogical procedures and Moodle's constructivist-based activity planning, trainees construct their own knowledge basis, either on their own or within training groups, therefore fostering a quicker understanding and developing involvement and motivation, increasing individual empowerment and, in the end, autonomy.

Moodle has also helped to improve the quality of the content and the trainers' motivation, thanks to a pedagogical engineering process inspired by co-constructivism. Indeed, Edgar Morin is reputed to have said that it is the collaboration of our brain with external world, in order to build and produce knowledge (Bougnoux and Engelbach, 2008). Accordingly, instructors no longer build the training course alone, but in a collaborative way, according to the content published on Moodle. For instance, a module on the use of weapons would be prepared together by the professional intervention department, the legal education department and the crowd and riot control department, so that each of these departments could contribute — precisely and satisfying high quality standards — the appropriate content.

In addition, through offering extensive assessment features, Moodle gives trainees the possibility of eval-

uating their knowledge acquisition by themselves, by using e-modules. It also allows trainers, through various activities, to assess learners in a transparent and attractive way.

Ultimately, like a true virtual agora, Moodle benefits the EOGN's internal communication through many forums. Hence, the general forum, open to every military and civilian staff member, as well as to the trainees of the EOGN, fosters transverse communication within the organisation. The staff forum — use of which is restricted to instructors from the school — constitutes a privileged space for pedagogical discussions. And finally, each training year has at least three forums: the first aiming at internal coordination and the second and the third being dedicated to the year's social life and activities, as well as various announcements.

Third pillar: simulations and 'serious games'

Providing a safe environment that allows mistakes to be committed without any real consequences — as well as solving problems related to sensible professional situations and repeating exercises in a limited time and in various command positions — simulators and 'serious games' not only enable trainees to acquire basic skills at the beginning of their training, but also strengthen and develop their competencies throughout the training course.

Moreover, these programmes allow learning to be de-compartmentalised and to cross over, by endorsing the role of connecting hubs and transverse centres of the different forms of teaching provided at the EOGN. Relying on immersion and built on a socio-constructivist real-time logic, they ease access to 'deep-learning' processes by observing trainees, by prompting them to build up their knowledge in situ and by themselves, individually or within a training group, through watching the actions of their fellow learners who are simultaneously using the simulators.

These command support simulators are intuitive and simple to use. The 'Tactical Simulator of Command' ⁽¹⁾ allows French gendarmerie units to be manoeuvred on a digital map, whereas the 'Basic Skills Tactical Simulator' ⁽²⁾ allows students to work directly on a virtual

⁽¹⁾ This simulator is based on Romulus software, created and developed by the French army over the last 10 years. This digital tool has been converted by the EOGN in order to answer its needs.

⁽²⁾ This simulator uses Operation Flash Point® game software from Code Masters.

field with a first-person view and perspective. Levels of command are thus available in a range from a team to a regiment, whatever the type of unit is, including interdepartmental services and civilian forces (national and municipal polices, civilian security, fire rescue services), for improved acclimatisation of learners to the transversal dimensions of public safety from the beginning of their initial education onwards.

Finally, the 'Tactical Simulation Serious Game' is based on placing the learners in a situation associated to a double optical system. It combines a roof and wall video-camera network with an on-board camera borne by the team leader. Those two different points of view allow the observing trainees the possibility to compare in real time, and from a viewing room, the tactical perspective on the scene and the view of the team chief, from a first-person point of view, and then to appreciate the manoeuvre's coherence, as well as the leader's actions and position.

Fourth pillar: prospective, research, technological and pedagogic development

The last pillar consists of innovative digital tools and pedagogy, because our current simulators and serious

games are already outdated on the digital timeline. That is why the division for digital learning engineering provides a watch on technological developments (virtual and augmented reality, laser shots, etc.) and on new pedagogical methods in order to examine their potential deployments.

Digital learning is an authentic, modern, effective and innovative training strategy, which offers efficient and motivating tools using the EOGN's digital campus. Providing both trainers and learners with numerous resources relating to training and pedagogy engineering, these accessible and simple-to-use materials are additional means that judiciously enrich training programmes. They contribute to the acquisition of basic competencies and to skill improvement and building, however they will never put into question the role of humans and the usefulness of face-to-face education, which remain fundamental because 'Investing in training is to combine the present but also the future concern of men and concern results' (Bloch and Hababou, 1986).

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