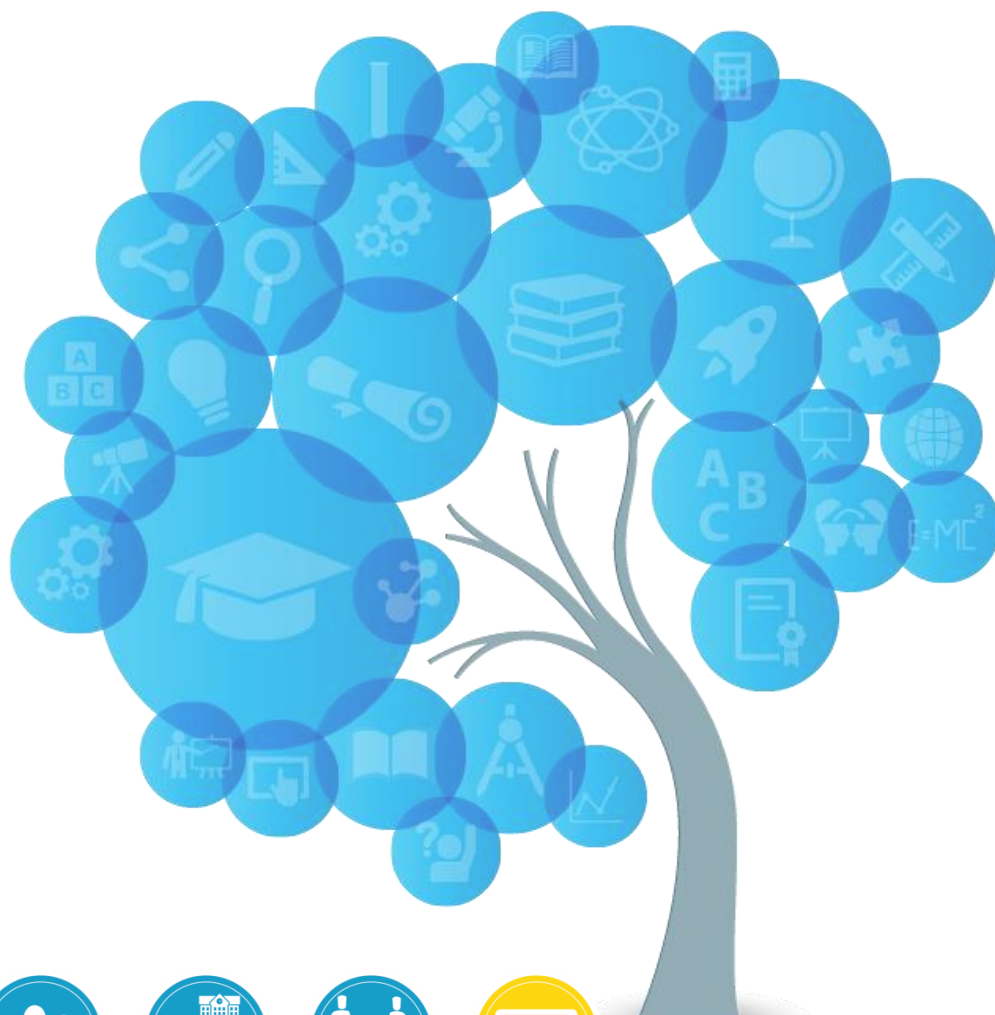




European
Commission



Bring Your Own Device (BYOD)

Key messages of PLA#1
Hamburg, July 2016

Produced by the ET 2020 Working Group on Digital Skills and Competences

Education
and Training

Key messages

The first Peer Learning Activity (PLA) of the ET2020 Working Group on Digital Skills and Competences took place on 6-8 July 2016 in Hamburg.

The PLA focused on Bring Your Own Device (BYOD) policies in secondary schools; taking an in-depth look at Hamburg's pilot project 'Start in die nächste Generation' (Start into the next generation).

The pilot has been run in six schools (out of 40 applicants) for the past two years. This will be scaled up to 50 schools from next year. An evaluation of the project by the University of Hamburg is near final.

The two-day meeting included case studies from several countries, background research on BYOD, a presentation of the forthcoming German strategy for digital education, presentations on the Hamburg project as well as visits to five pilot schools to meet with school leaders, teachers and students.

Below we have captured some of the key findings and messages of the PLA. These are not meant to represent the views of individual members but to reflect our overall discussions.

Summary

- If they are used correctly, mobile and other digital devices can undoubtedly enhance educational activities and support self-directed and independent learning. Better results are, however, not guaranteed and, if this is the case, they are unlikely to be captured in existing indicators and measurements.
- Success depends on a robust, holistic concept; transformation, however, can start small in individual schools and classrooms. BYOD, in particular, can be used successfully even when the wider school has not yet integrated digital technologies.
- However, for a more rigorous approach to BYOD technical, legal, organisational, pedagogical, teacher and student skills, and ethical and equity issues need to be considered.
- Combining top-down and bottom-up approaches is recommended. Stakeholders should be involved early on – in particular teachers and school leaders, but also parents and students themselves. Teachers and school leaders may require the independence to choose strategies, pedagogies and tools for their particular context.
 - The pedagogical and technical expertise of teachers is a key success factor; they need support and guidelines which are relevant to their daily practice.
- The choice of learning materials, software or apps will in most cases be more significant than the actual device.

- Supporting peer-to-peer training of teachers can be key in spreading good practice; communities of practice can support sharing across schools.
- Practical issues and problems will arise; technical support in classrooms is needed; this can be from teachers or ICT professionals, but students themselves can also be trained to provide support (as was the case for the Hamburg pilot).

Educational material and curricula

- Paper and digital tools are not "polar opposites" but can be mutually reinforcing. Open educational resources (OER), commercial materials and teacher-made content – whether books, e-books, consumer apps or dedicated classroom apps, can have a place in learning and teaching.
- Tools and materials should be chosen according to learning goals, not the other way around. Equally, curricula should facilitate the choice of tools and materials.
- LMS need to evolve to fit different technical needs (e.g. when/if mobile devices are allowed the LMS needs to be mobile-friendly) and be flexible to allow for different pedagogies. Extensive, complex features and functionalities meant a steep learning curve for teachers involved in the pilot project. Gradual exploration and an early focus on pedagogy, rather than using the LMS as just an information platform, can support steady improvements and a focus on the student and their learning.
- Teachers need guidance and opportunities to find and (where necessary) acquire the relevant learning materials and tools in terms of language, age group and subject needs. A European approach for sharing content, projects, experiences and best practices could be helpful. Much is available but in particular OER might not be well 'mapped'.
- Rather than resist change, educational publishers need to become more innovative, embrace digital materials and develop new business models.
- Assessment also needs to evolve to fit today's digital reality.

Teachers and pedagogy

- Many teachers are looking to improve and be innovative in their teaching and practices. For this they should receive support, encouragement and recognition.
- Getting teachers to work more actively and frequently in teams is crucial for innovation yet this remains a major challenge.

- Peer learning has a great potential to spread good practice; school authorities should facilitate such exchange and school leaders play a central role in supporting such dynamics.
- Efforts to encourage innovative education and constant improvement must start at initial training and be addressed in other dimensions, e.g. in reward and recognition schemes and the number of hours or days dedicated to training.
- Technology can improve and innovate learning, if used well. It should not simply recreate traditional classroom methods.
- Teacher motivation can be a challenge, in particular for those with little or negative experiences of technology in class or private life. Starting with those eager to innovate and thus demonstrate the value for teachers themselves, can encourage others to join in.
- Digital tools and new pedagogies should also be used for teacher training itself.
- In particular in the early stages of introducing digital technology in education, teachers will experience an increased workload; however this initial work can reduce workload in the future if materials and techniques are reused. Easy ways to collaborate and share resources (OER) can also help to reduce workload.

Digital competences

- Digital competence and media literacy are becoming vital skills for both learners and teachers; these will be strengthened through the frequent use of technology in education but will still require dedicated training.
- Education should demonstrate the potential of digital tools and encourage active and purposeful device use, to help learners overcome a more passive 'consumerist use of technology.
- Technology use should aim to teach skills holistically, e.g. considering all dimensions of the digital competence framework for citizens.
- Students need to learn to recognise risks and become responsible digital citizens; this includes an awareness of appropriate online behaviour, data and identity protection (e.g. encryption or password hygiene) and certain legal or health issues.

Smartphones and tablets as educational tools

- BYOD can be a more 'user friendly' approach to technology integration as teachers and (especially) learners are familiar with the device; it also allows learners solve problems more independently and devices are less likely to be damaged or be lost.

- Having devices easily available in class, through BYOD, can help teachers choose the most suitable pedagogy and tools for the intended learning goals.
- Interoperability difficulties can be addressed to some degree by online tools and 'Bring your own Browser' logic (ie content is viewed through the browser rather than through device-specific apps).
- Different devices could however impact on equality, e.g. if students complete the same task with either laptops or phones one may have an advantage over the other. There is a risk of stigmatisation of children from different socio-economic backgrounds who do not have the most up-to-date device.
- Smartphones can be effective learning tools, but small screens are a limiting factor particular when it comes to using the devices for content creation.
- Schools may still want to invest in computer labs; teachers can also benefit from school-provided laptops or support to upgrade their own devices.
- Digital technologies in and for class raise difficult issues for teachers and schools, including data protection, digital identity, the potential for distraction, or cyberbullying. As schools have less control in BYOD these could potentially be more difficult to resolve.
- The regular and autonomous use of digital devices can also help students to learn good "digital citizenship" and responsible and safe online behaviour and 'netiquette'.

Wider change

- The pilot project in Hamburg demonstrated a combination of top-down and bottom-up approaches. The education authorities provided the infrastructure the schools need (broadband; Wi-Fi; LMS) as well as training and other guidance (e.g. on data protection). Schools had the freedom to innovate their pedagogies and were allowed learn, fail and gradually change and improve their teaching and learning.
- A school-level approach and autonomy are important; each school's 'development team' analyses existing practices, organises teacher training and peer learning, encourages pedagogical discussions and peer assessment, supports joint planning of lessons across subjects, coordinates the evaluation, promotes and communicates the projects to students, parents and the community
- School leaders should be encouraged and given the freedom to play a leadership rather than an administrative role.

- It is difficult to get all stakeholders – leadership, teachers, students and parents – on board. This engagement needs to start early on and be allowed to shape the project.

Looking forward

- Encouraging autonomy and an ability to learn independently should be key goals for education; BYOD can encourage both personal responsibility and collaboration.
- BYOD should not be seen in isolation but is just one part of a wider digital ecosystem and pedagogical practices.
- More technologies are constantly arriving – the place of 3D printing, 'Fablabs', app programming or virtual reality in education is still to be determined.
- The lessons from research into pedagogy and learning take a long time to reach educational practice; this link needs to be improved.
- Better indicators are needed to measure efficiency and effectiveness of the use of technologies in the classroom.
- Implementation is still far from the ambitious messages of EU-level policy, (e.g. Opening up Education, 2013). More can and should be done across the EU to scale up pilot projects and mainstream good practice in digital learning.

Open questions

- How much potential lies in cross-border (and cross-languages) sharing of materials and tools (e.g. Learning Management Systems, Identity validation); how can this be encouraged?
- How can a common metadata for OER and other digital materials be developed to encourage exchange and findability of materials across borders?
- How does the use of smartphones for class impact students' digital competences? How much does it change or even limit pedagogy compared to e.g. laptops?
- Does BYOD as an alternative for the supply of devices in schools create a new digital divide? How can equity and equal opportunity be assured?
- How can digital devices and in particular BYOD approaches fully consider the needs of learners with special needs?
- How can teachers be encouraged to use technology as a way to improve their teaching practice?
- Can exchange of school leaders encourage uptake of good practice?