European Schoolnet

Guidelines for teaching & learning online as part of the "new normal"

Publisher: European Schoolnet (EUN Partnership AIBSL)
Rue de Trèves, 61
1040 Brussels, Belgium

Author: Benjamin Hertz, European Schoolnet (with contributions from Silvia Couvaneiro, University of Lisbon)

Editor: Patricia Wastiau, European Schoolnet

Designer: Jonatas Baptista, European Schoolnet

Please cite this publication as:

Hertz, B. (2022). *Guidelines for teaching & learning online as part of the "new normal"*, Brussels, Belgium.

Published in May 2022.

Illustrations by Irina Strelnikova / stock.adobe.com

CONTENTS

Introduction 01

What pedagogical practices are considered effective to support student learning in online contexts? 02

Building engagement through positive relationships 03

Effective communication 05

Organisation of learning activities 07

Focus on student self-regulation and autonomy 09

Student-centred pedagogies 11

Assessment and feedback 13

Working with families 16

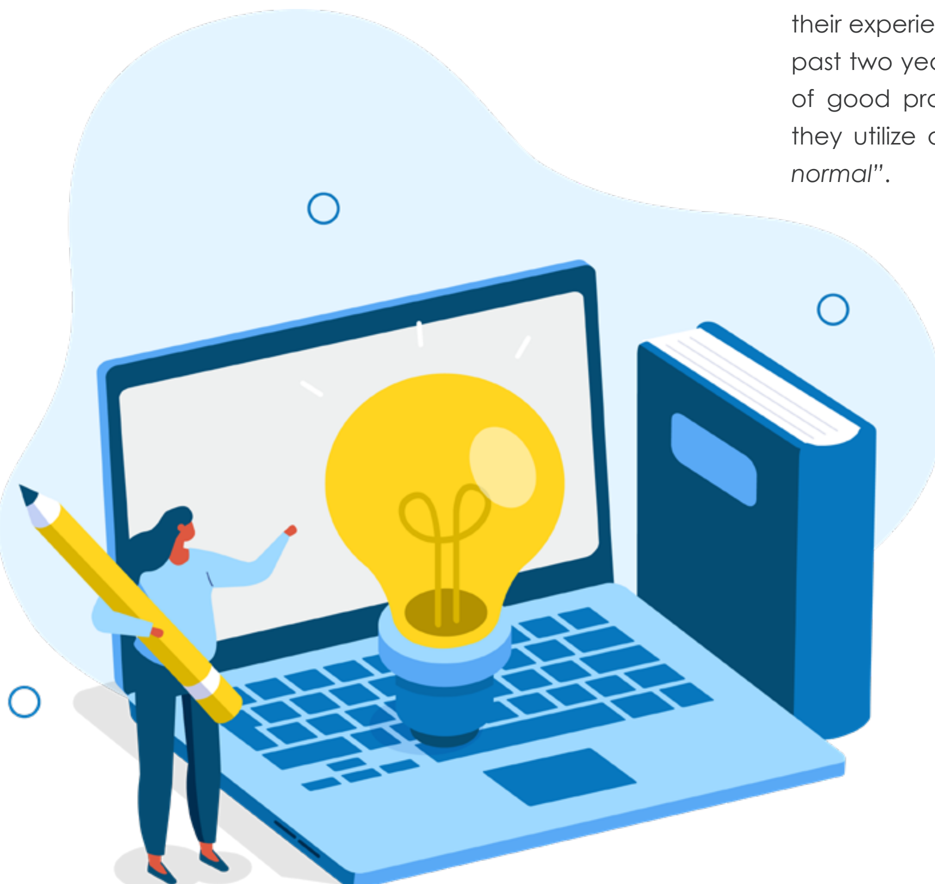
Universal design for learning 18

Conclusion 20

References 21

Introduction

When in 2020, with the onset of the Covid-19 pandemic, schools across the world shifted to online teaching and learning, many teachers for the first time were teaching in an online environment. While online teaching and learning has been around for decades and was successfully practiced prior to the pandemic, it was not a common practice in school education. Accordingly, many teachers felt overwhelmed by the challenge of switching to a fully online mode of teaching and learning and, understandably, often stuck to pedagogical practices that they were familiar with instead of shifting their approaches to fit better the online context. In fact, an online survey of teachers asking how they taught during the Covid-19 pandemic found a reduction in student-centred practices, despite such practices being considered more appropriate for online learning (Selim Bilgin & Kralj, 2021). Arguably, many teachers were also not offered the conditions that would have facilitated or even allowed for the implementation of pedagogical practices more suited to the online context. Accordingly, Hodges et al. (2020) coined the term "*emergency remote teaching*", to avoid the impression that the practices we were seeing resembled in any way what researchers and practitioners of online learning considered to be representative of what online teaching and learning should look like.



Now, 2 years into the pandemic, with many schools back open or in the process of reopening, schools and teachers need to evaluate what they take from the experiences of the past 2 years to decide if and how they maintain elements of online teaching as they move forward into what has been commonly referred to as the "*new normal*". As they do this, it is essential that only practices are maintained that are considered effective for teaching and learning online, instead of other practices seen commonly during the period of emergency remote teaching. Therefore, to support teachers in this process, the following report outlines a set of guidelines and examples of what is considered as effective practices for online learning in primary or secondary school settings. The guidelines build on the extensive academic literature that examines online learning in general, the more limited literature on online learning in primary and secondary school settings, and reports and guidelines prepared by a variety of educational, non-governmental, and governmental organisations either prior to the pandemic or as support for teachers during the pandemic. The guidelines also offer concrete examples and teacher quotes taken from the literature and reports as well as from conversations with 7 experienced teachers and school principles from Ireland, Czech Republic, Portugal, and Italy who were interviewed for the purposes of this report.

This report should therefore support teachers in consolidating their experiences and the guidance they received over the past two years into a comprehensive but concise overview of good practices to consider and implement whenever they utilize online learning modalities as part of the "*new normal*".

What pedagogical practices are considered effective to support student learning in online contexts?

The following guidelines summarise a set of practices that are commonly mentioned in the academic and non-academic literature as being effective for teachers to organise teaching and learning when working with their students online. It should be clear that most of the practices outlined are also important for teachers to implement in onsite teaching and learning contexts, and accordingly should not be anything substantially new for most teachers. However, the focus on and the nature of how these practices are implemented online are often different than when working with students in an onsite context. The guidelines therefore aim to identify concrete differences between onsite and online implementation and what teachers need to be aware of and watch out for in the online environment.

Furthermore, it should be clear that for teachers to be able to implement these practices, they need an environment that is conducive to such practices. This does not only refer to the availability of the technical infrastructure needed, but also whole-school practices and policies. For example, teaching and learning online rarely works in the context of a traditional school timetable organised around 60-minute lessons or a restrictive school policy of interaction with families. While the guidelines do not address such whole-school issues, teachers need to identify what elements in their own school context might hinder the implementation of a practice and how they can overcome those.

Building engagement through positive relationships

What is it about?

Research shows that developing positive relationships with students leads to greater engagement of students in school at short and long-term for a variety of factors such as attendance, academic grades, fewer disruptive behaviour, etc. (Obsuth et al., 2017; Quin, 2016). While developing positive relationships is important in any learning scenario, it is even more important in an online context. This means we need to plan for dedicated time and activities that aim to develop positive relationships. While the focus is often on the teacher-student relationship, it equally applies to the relationships amongst students. Activities and time spent to achieve positive relationships should therefore be considered for the whole class but also with small groups and on a 1:1 basis.

Why is it important?

The following paragraph from a teacher guide produced by the Michigan Virtual Learning Research Institute outlines well one of the biggest challenges of online learning:

"One distinguishing feature of online learning is that all interactions must be sought out intentionally and supported. Online learning environments do not have the affordance of natural social opportunities that fully face-to-face environments do. Online facilitators don't have the ability to read body language, see students visibly struggling, or informally build rapport with a "How's it going?" check in. We must develop and refine instruments that aide the teacher in engaging with students in ways that promote deep learning fellowship." (Michigan Virtual Learning Research Institute, 2022)

Studies of online learning in school education such as those conducted by Archambault et al. (2014) (2014) and Stevens and Rice (2016) confirm this and highlight the importance of the social aspect of learning and the need for teachers to form *"meaningful and supportive relationships with students in the online environment"*, recognising this is more difficult for teachers to accomplish when they are apart from students, both in space and time (Archambault et al., 2014, p. 88). Stevens and Rice (2016) point to Garrison et al.'s (1999) Community of Inquiry framework that is often used in online learning contexts and which accentuates the importance of social, cognitive, and teaching presence for effective learning experiences. Stevens and Rice stress in particular the link between social presence, the ability of learners to identify with the learning community and develop inter-personal relationships, with the cognitive presence of learners, the ability to construct and confirm meaning through sustained reflection and discourse. In other words, learning can only happen if the learners are socially engaged. However, social engagement does not come solely from an engagement with the teacher but also from engaging with other students. Palloff and Pratt (1999) observed that *"the sharing of our lives, including our travels, our observations, our emotions, and who we are as people is deliberately brought into the classroom in an effort to promote group cohesion and connection"* (p. 78). Myung et al. (2020) accordingly confirm that the focus of teachers when they start working with students online *"should be on developing a sense of class community"*. Coy (2014) also points to the importance of building a sense of community, however, not just with the students but also their families. She accentuates this as of particular importance for students with special educational needs (see

more on this in *"Working with Families"* below). Feeling part of a community is also likely to be key for the online engagement of students from less privileged backgrounds and marginalised groups. There is evidence from onsite school settings that interventions at the beginning of the school year focussed on students' feeling of belonging can substantially benefit minority students in their academic success (Goyer et al., 2019). There is little reason to believe this would be different in an online setting. In fact, White (2000) suggests that *"a positive emotional climate can serve as a frame of reference for online students activities and will therefore shape individual expectancies, attitudes, feelings, and behaviours throughout a program"*. Furthermore, in light of findings that students from less privileged backgrounds are more likely to disengage due to lower confidence levels, rather than having inadequate access or skills for using technologies (Engelhardt, 2021), this suggests that addressing students' emotional sense of belonging to a community, is likely to have a positive impact on them also in an online environment.

3 Examples of implementations

1. Teachers interviewed for this report offered examples of how such positive relationships can be developed. During the initial lockdowns many of them suffered from low attendance or very limited student engagement with their lessons. To address this, most of them focussed on getting students to feel more comfortable in the online environment and with their way of teaching. This meant less teaching and more community building (*"connection over content"* as one teacher summarised their approach), through activities like morning circles, theme parties, and games.

"every Friday we had projects (…) connected to animals or we were in pyjamas sitting in front of… We made ... Fashion and pyjamas party, you know, and I always prepare something, but they could choose (...) pyjama party, pet party [space day] or I don't know and they would vote before the best and the next Friday we made another project like that, and they really enjoyed that." (Czech Teacher)

2. For positive relationships to develop it is essential that teachers find the time to personalise their communication with students and are available for 1:1 meetings. This means greeting all students by name in synchronous sessions and having regular check-ins as part of synchronous sessions to hear how students are feeling and getting on with their work. It also means offering regular office hours and encouraging students to make use of the office hours. If time allows scheduling 1:1 catch-ups with all students reasonably regularly is a good practice and in particular with those who might be struggling.

3. Show your video in synchronous meetings but also use video for asynchronous communication to facilitate a greater sense of connectedness. (Bowden, 2022)

"The video messages I sent my students were personalized, intentional, and heartfelt. I spoke directly to the camera, making sure to state the student's name…I assured them that I was going to help make distance learning feel manageable for them. I let them know how much I cared about their social-emotional health." (Bowden, 2022)

4. Gathering regular feedback from students about which elements of the online learning works for them and which don't and how to change those elements can also help positive relationships as it gives students a feeling of agency and acknowledgement. This can be done for example through an end-of-the-week class discussion or short survey.

5. To facilitate student to student relationships it is essential to incorporate group work and other collaborative forms of learning into the teaching approach (see also Student-focused Pedagogies).

4 Additional resources

How to Build Relationships Virtually: The Ultimate Guide for Teachers (Albert.io)

Teacher Guide to Online Learning (Michigan Virtual Learning Research Institute, 2022)

Effective communication

What is it about?

Even more so than when working onsite we need to carefully consider the language we use when communicating online with our students and their families and take conscious decisions about which medium to use for a certain purpose. Our communication also needs to offer a model for effective online communication to students, exemplifying the tone and style that is expected of students in their online exchanges. Through the language we use we should aim to create a caring and supportive social space in which students feel safe and comfortable. This means paying attention to using inclusive language and reflecting about the nuances of messages and potential misinterpretations or misunderstandings generated through the language used.

Why is it important?

Positive relationships can only be built if teachers are effective in their communication used during remote teaching scenarios. The way teachers communicate in remote scenarios with students and parents is more complex than when communicating with students in an onsite setting. The Michigan Virtual Learning Research Institute again outlines the challenge well:

> *"Each time we communicate individually with another person, we are sending multiple messages—some intended and some not intended. It is a common saying that 90% of communication is nonverbal, such as body language, tone, the timing of the response, and the method of the response. Since much of our online communication is lacking body language and often tone of voice, it is crucial that we pay close attention to our delivery techniques."* (Michigan Virtual Learning Research Institute, 2022)

The importance of effective communication is accentuated when working with students from marginalised communities or diverse cultures as *"communication built on misinformation, assumptions or stereotypes can create distance between schools, families and students"* (Southern Poverty Law Center, 2022). As mentioned above, it is precisely such students and their families who can particularly benefit from a positive relationship with the teacher. Similarly, Coy (2014) concludes that effective communication between students with special educational needs, their families and the school is vital for engaging students in online learning. Communication should be varied in terms of the means used and dependent on the requirements of the family (e-mails, newsletters, video calls, phone calls) (Coy, 2014). More generally, results from a survey of students in Sweden on their experiences of remote learning during lockdowns, show that students place a high importance on communication with the teacher and other practices related to the relationship between the student and teacher (Sveriges Elevkårer, 2020). The top three items marked as most important for students were linked to getting support when needed, feedback from the teacher, and communication with the teacher. While the results are not representative of the student population overall, they do suggest that many students seem to place a lot of importance on the interaction and communication with the teacher when it comes to online learning.

Effective communication in the form of proactive communication is also important as it makes sure all relevant information is easily accessible to students and families from the outset, and thereby saves teachers important time by avoiding answering questions individually and stopping problems from occurring in the first place (Shelton & Saltsman, 2012).

Ideas and examples of implementation

1. *"Initial postings in the discussion forum, your first messages sent to all by email or listserv, or the greeting you post on your course home page will do much to set the tone and expectations for your course. These 'first words' can also provide models of online communication for your students"* (Ko & Rossen, 2020, p. 189)

2. Make purposeful decisions about which medium to use when communicating with students and families depending on their profiles. For example, avoid the use of emails with families that struggle with technology and instead use phone calls, as it offers a simpler, clearer and more direct way of communicating.

3. Prompt students who display low attendance or low engagement with a gentle reminder email or telephone call. A phone call may prove more timely and effective in case of repeated issues (Bischoff, 2000).

4. Be aware that there could be students, in particular teenagers, who are uncomfortable with appearing on video in front of the whole class. Instead of forcing them to use video in the whole class setting, use smaller groups and 1:1 exchanges where the use of video is likely seen as less problematic.
"There were some of them… [who were] just terrified of being on screen in front of their peers" (Irish Teacher 2)

5. Bring a sense of self-reflectiveness and cultural humility to conversations and interactions, especially with students from different cultural backgrounds and communities.

6. Use video recordings of yourself to outline the week's activities, instead of just writing an email, as this allows for a more personable way of communicating.

7. Explicitly address and teach students the four "P's" of good communication: personal, polite, positive, and professional.

8. Add positive emotion and visual cues to your written communication. The online environment can be limiting when the communication is mostly text-based. Emoticons serve the same purpose as nodding a head in agreement or offering a welcoming smile as would occur in an onsite setting (Shelton & Saltsman, 2012).

9. Be aware that students might feel overwhelmed with all the messages reaching them and the large variety of communication channels they are expected to engage with. Get feedback from your students about this and discuss with them how to address it.
"they literally just were overwhelmed with the emails and trying to navigate through Google classroom trying to navigate through the assignments" (Irish Teacher 2)

10. *"The tone of an email is critical. No matter what the situation, I am always going to assume the best of each situation and avoid anything that might sound accusatory or judgmental"*. (Shelton & Saltsman, 2012)

11. *"Instead of asking the student over and over how to pronounce their name, I like to record it, so I can listen to it at home and learn to pronounce it the right way"*(Irish Teacher 1)

12. Keep your sense of humour and use humour strategically but sensitively to build connection and diffuse tension.

Organisation of learning activities

What is it about?

When teaching online, teachers need to purposefully decide which activities are organised with students working in real time (synchronously) or students working independently on their own time (asynchronously). Linked to this, teachers need to decide how long these types of activities should be, and in what order. To give a concrete example, a class discussion can be organised synchronously with students' comments made one after another during a video conference, or asynchronously with students' comments made in their own time on a forum. The dynamics and timings of such a discussion are entirely different and depending on their profiles, students will engage and interact also very differently with them. The synchronous discussion might generate more engagement from students who are outspoken and have few problems voicing their ideas. It is also likely to be more fast-paced and dynamic while arguments are probably less developed. The asynchronous discussion on the other hand will be easier to engage with for students who prefer to reflect first and take time in formulating their ideas. It will be slower in pace but arguments might be more developed and refined. As this example illustrates, how teachers decide to organise activities online should depend highly on the context in which the teacher works. For example, younger students at primary level will struggle more with extended periods of independent work, so that any mix of synchronous and asynchronous activities is likely to focus more on synchronous activities. Students with certain special educational needs on the other hand, who might normally struggle in keeping up with lectures or activities organised synchronously, would benefit from more asynchronous activities (de Bruin & Sharma, 2021).

Why is it important?

Online learning scenarios require new ways of conceptualising what a lesson is. Replicating a traditional school day, with students attending several lessons one after another, can lead to disengagement if organised fully online (Snelling & Fingal, 2020). And maintaining traditional concepts of a 60-minute-long lesson with teacher lecture, exercises, plenaries, and homework in between lessons fails to build on the new opportunities offered by the online modality (University of Alberta, 2022). Research on online learning finds that it needs to include a good mix of synchronous and asynchronous activities to be effective (DeLozier & Rhodes, 2017; Doucet et al., 2020; Myung et al., 2020). Each type of modality serves certain purposes and caters to different types of students. For example, synchronous activities are essential for building positive relationships (Clark et al., 2015), offering students immediate feedback (Lee et al., 2017), and can lead to dynamic collaboration and active engagement (Kay & LeSage, 2009). Asynchronous activities on the other hand are beneficial for students to process ideas and concepts and develop their own in-depth thinking (Cheng et al., 2019) as well as offer students greater flexibility in how they access and complete an activity, which can be particularly important for students with special educational needs (Velegol et al., 2015). Research studying the effects of the flipped classroom approach on students' learning online, where students watch a video or pre-recorded lecture as part of asynchronous activities and then conduct exercises or collaborative activities during the synchronous sessions, has a positive impact on students' learning, motivation, and autonomy (Campillo-Ferrer & Miralles-Martínez, 2021).

Ideas and examples of implementation

1. Interviewed teachers reported that when working synchronously, 30-minute sessions with breaks in between worked better than traditional 60-minute lessons.

"Students had 30-minute sessions with breaks in between them, so they would not be too tired of their screen time." (Portuguese Principal 2)

2. Avoid using synchronous sessions for transmission of information (e.g. teacher lecture, giving instructions, etc.) instead use them for informal catch-ups, Q&A sessions, office hours, live discussions, small group work, etc.

"we didn't teach through zoom, it was more of a weekly catch up… Just to see how they were doing…" (Irish Teacher 1)

"I provided individual consultations to children three times a week. If they couldn't do something or didn't understand something, they could sign up for online tutoring." (Czech Teacher)

3. Pre-record explanations, instructions and guidance for use in asynchronous sessions, thereby offering students a key advantage of the online medium as it allows them to repeatedly revisit the explanations or instructions, jump to relevant parts immediately, speed up or slow down videos depending on their ability to process them, etc.

4. Use the flipped classroom approach where students watch a pre-recorded lecture in their own time and then conducting group work or Q&A sessions with the teacher during synchronous session.

"it's flipped... flipped teaching so they did the homework in class essentially... so they did the tasks in class, they did the group work in class." (Irish Teacher 2)

5. Use synchronous sessions to conduct fun and informal activities that generate bonds between students and teacher.

Additional resources

Synchronous and Asynchronous Teaching (University of Alberta, Centre for Teaching and Learning)

Focus on student self-regulation and autonomy

What is it about?

When students work remotely a much higher level of autonomy is required of them. To succeed, students need to self-regulate their learning. For example, unlike in a classroom, teachers do not have any control over a students' learning environment. Distractions in a students' surroundings or on their digital device cannot be controlled by the teacher. Decisions about when and how a student approaches an activity can be influenced by the teacher but to a lesser extent than in an onsite setting. When working online teachers should therefore dedicate time to teaching students how to deal with this increased autonomy and responsibility for their own learning. This means designing activities that specifically foster a student's understanding of their own way of working and facilitates their capacity to take decisions and organise their own learning. While there are limits to the degree of self-regulation and autonomy we can expect of younger students, it is nevertheless essential to teach these key skills to them from a young age.

"And now, all of a sudden, they get up in the morning, and they've got to figure out how to do six subjects during the day and get everything in on time, but it's up to them to schedule it all. And for a 13- or 14-year-old, that's asking them to basically act like a college student, and I think it's very hard on some of them." Tina Morris — science teacher and sustainability director at The Pike School in Massachusetts (Gorey, 2022)

In fact, a research study examining the experiences of students during the lockdowns reports that students appreciated their own planning for learning time and less rigid day schedules and were able to develop self-regulation skills to focus on learning and not get distracted in the home environment (Carretero et al., 2021). Some students even declared that the most important skill they acquired during the lockdown was to become more autonomous in their learning (Gaggioli et al., n.d.).

Why is it important?

It is well documented from research that when adults learn online, many lack or fail to implement key strategies that are needed to take advantage of the increased autonomy and added responsibility for one's own learning that comes with online learning (Rowe & Rafferty, 2013). Strategies that would, for example, allow them to make effective use of their time, learning environments, and the tools available to them (Clarebout & Elen, 2006; Lynch & Dembo, 2004; McMahon & Oliver, 2001). Considering that most adults struggle with this, it is essential that school students are given the adequate support and preparation to properly develop the capacity to implement such strategies.

3 Ideas and examples of implementation

1. Scaffolding of student autonomy is essential. Giving students too much autonomy from the outset can lead to students' disengagement. By explicitly engaging students in their own learning process and gradually giving students more and more autonomy, they can be effectively prepared for succeeding in a remote learning scenario.

2. It is essential to make expectations about the degree of autonomy expected as part of online learning clear. Some students may come from societies or cultures where students are not expected to be responsible for their own learning. This can result in disengagement from students and/or pushback from parents who do not understand the rationale for giving students more autonomy. Some of the interviewed teachers reported about conflicts with parents who expected teachers to do *"remote babysitting"* and wanting their children to remain 6 to 7 hours in front of a screen with a teacher: *"so the problem was that to persuade parents about this new method … and the importance to enhance autonomy in children"*. (Italian Principal)

3. Basic examples how self-regulation and autonomy can be taught are reflection exercises where students think about what learning is and how they learn best. This could be done by setting up a discussion board where students reflect on their learning and the teacher responds with both acknowledgement of evidence of their learning as well as questions to extend their thinking.

4. More advanced examples include students preparing study plans based on their own context and needs or developing their problem-solving skills to facilitate autonomy by having them brainstorm creative solutions to common problems encountered when learning online.

5. Implementing more student-centred pedagogical approaches such as project-based learning also allows for plenty of opportunities to give students more ownership over the way they approach a task (Doucet et al., 2020; Kistner et al., 2010). For example, rather than prescribe how students present the findings of an experiment they could decide by themselves about the most effective medium and method to do so.

6. Organising scavenger hunts at the beginning of the year that teach students how to navigate the online environment and where and when to find help can develop their autonomy throughout the rest of the year (Schweizer, 1999).

4 Additional resources

[The tMAIL project]

[Repository: Teacher training materials on self-regulated learning (tMAIL)]

[Theoretical Framework (tMAIL)]

Student-centred pedagogies

What is is about?

Student-centred pedagogies such as project-based learning, inquiry-based learning, or collaborative learning rely heavily on activities where students have a lot of agency and are required to be active in the learning process. The teachers' role in student-centred pedagogies is as a guide at the side who carefully helps students reach their own solutions and answers in the learning process. Given that students have a lot more ownership over the learning process, student-centred pedagogies are usually more personalised to the students' learning needs than teacher-centred approaches. Some student-centred pedagogies also offer the opportunity for students to create meaningful learning products that can be shared with external audiences. Due to the nature of student-centred pedagogies learning focusses as much on skills-development as it does on learning about the subject matter.

Why is is important?

Research shows that using student-centred pedagogies works best in online teaching scenarios. Pulham & Graham (2018) carried out a literature review on effective online teaching and learning in schools finding that most of the literature refers to mastery-based and student-centred learning approaches, enabling personalized, independent, and self-paced learning environments. The authors underline the importance of teachers giving their students more control and responsibility as a factor in the success of these approaches. Considering the importance of students' autonomy and self-regulation in online learning, as well as the importance of building positive relationships, it is not necessarily surprising that pedagogies which develop and accentuate the importance of autonomy, self-regulation, and collaboration are shown to be more effective than pedagogies which are dominated by the teacher or the curriculum content. For example, students have much more opportunities to build positive relationships with each other if they work collaboratively as part of working on a project, than if they only listen to the teacher or work individually interacting with the course materials. Furthermore, pedagogies where students can create media-rich products, such as project-based learning, build on the strengths of the online medium. The internet today is often described as a "*creator economy*" with tons of platforms and tools for creators to build new content and share it with the world (Chayka, 2021). Using pedagogies that make use of these tools and facilitate the sharing of students' work with the outside world are likely to engage young people, who are growing up in a world shaped by the "*creator economy*", more effectively. Additionally, the sharing of students' work with the outside world can support the engagement of families and local communities, which is also key for the success of online teaching and learning (see Working with Families section below).

3 Examples and ideas of implementation

1. Use collaborative learning approaches where students jointly create a virtual output, for example through small groups working together on a section of a virtual poster that is developed and presented by the whole class.

2. Aim to design activities where students need to co-construct responses to questions set. In preparing their answers students should investigate the question, each looking at it from a different angle, thereby ensuring dependency on their peers for formulating a comprehensive response to the question set.

3. Make use of collaborative tools like padlets, documents or mindmaps that allow for joint editing and can be used for students to generate their responses together.

4. Get students to teach each and assess each other. Explain to them why peer learning and assessment are useful learning strategies and let them practice it to develop confidence in their abilities to support each other.

5. Get students to do experiments at home, record themselves, and then upload their videos on a forum or have them present them during a synchronous session.

"We would do like art competitions or science experiments, like the egg drop challenge, for example…. and so they'd record a video of them doing that, I think that kind of stuff got them excited and… you know, increased participation" (Irish Teacher 1)

6. Make use of some of the key advantages the internet nowadays offers, in particular the ability for rich content creation, publishing and sharing. For example by getting students to create their own videos, tutorials, virtual art galleries, social media campaigns or any other type of media.

"creating digital exhibitions (using "Artsteps" software), using virtual experimental labs, working as reporters, doing CSI investigation projects for Biology, recording students' voices in online platforms to develop oral skills in foreign languages and communicate with each other, as well as doing research and creating digital resources for Geography on different countries and cities – 'pedagogical events' - not just to develop specific skills for each subject, but also emotional skills, for example a project where students interviewed parents and students to know how they dealt with lockdowns" (Portuguese Principal 2)

7. Work with students to create their own online portfolio where they can collect all their work and set it up for sharing with an outside audience (e.g. blog, website, social media profile, etc.).

8. Share students' work with families and local communities, for example via the school website, school newsletters, etc.

"students created their own video presentations as well, recording their own voice and submitting them to their LMS (Edmodo or Google Classroom). They also used the school website and radio to share their learning, making everything available for the community" (Italian Principal)

9. Give students responsibilities in the online classroom, assuming some of the roles previously held by the teacher. For example, students could be asked to facilitate and moderate a discussion in a forum, or to post weekly summaries of online discussions, or even to act as the first line of support if other students have technical or practical questions (Shelton & Saltsman, 2012).

4 Additional resources

Student-Centered Learning: The Ultimate Guidebook (Europass Teacher Academy)

Student-Centered Remote Teaching: Lessons Learned from Online Education (EDUCAUSE Review)

William Rayens & Amanda Ellis (2018) Creating a Student-Centered Learning Environment Online, Journal of Statistics Education, 26:2, 92-102

Six Key Ingredients of Learner-centered eLearning Courses (SH!FT)

Assessment and feedback

What is it about?

Assessment and feedback are key elements of teaching and learning as they allow students and teachers to identify gaps and assess learning progress (Butler & Winne, 1995). Different studies have demonstrated that effective assessment and feedback has the potential to bring substantial benefits to student learning (David & Debra, 2006; Hattie & Timperley, 2007; Parikh et al., 2001). Black and Wiliam's (1998) meta-analysis of more than 250 studies concluded that feedback produced significant gains in both student learning and student satisfaction.

Good practices of organising assessment and giving feedback are mostly the same for onsite and online learning, but there are some key considerations that teachers need to keep in mind when moving to an online context. In a classroom environment, teachers constantly get verbal and nonverbal signals such as smiling or nodding to get a sense of how students are responding and progressing in their learning. Teachers also have the opportunity to walk around the classroom and spontaneously engage with students about their progress (The Chartered College of Teaching, 2022). In an online environment, teachers often lack this information or replace it with data points about students' engagement or progress coming from learning management systems. Similarly, students might lack the spontaneous and informal feedback that a teacher gives them while walking through the class and therefore struggle to get a sense of their own progress. Identifying and implementing regular and effective assessment and feedback techniques is therefore arguably even more important in an online context.

Another key consideration for teachers to be aware of and a consequence of an increased importance of assessment and feedback, is the likelihood of it being more time-consuming. It can therefore be a source of significant pressure and stress for teachers (Kearns, 2012). For example, following up on all written posts of students and giving individual feedback takes a lot more time compared to the quick oral feedback students acquire for their contributions in an onsite class discussion. Teachers' feedback and assessment strategies for an online class need to take this into account.

2 Why is it important?

The "*distance*" between student and teacher in a remote scenario makes timely feedback on students' work even more important than in onsite settings (Boettcher & Conrad, 1999; Center for Academic Innovation, 2020; Ypsilandis, 2002). Working remotely, it is easy for students to develop feelings of isolation or being out of touch with what is happening (Center for Academic Innovation, 2020). It also makes it more difficult for students to informally approach teachers to ask for help or signal otherwise that they are struggling (Center for Academic Innovation, 2020; The Chartered College of Teaching, 2022). It is therefore important that teachers manage to respond and give feedback to student work in a timely manner. This helps students to develop a sense of progress and confidence that empowers them to continue engaging in the remote learning process.

Considering assessment and feedback is also important because there are new ways how assessments can be organised and used online. For example, online quizzes can be more easily utilised to assess students' progress (The Chartered College of Teaching, 2022). Also, data about students' engagement and work coming from learning management systems can be used to understand a student's progress. On the other hand, certain types of summative assessments that rely on direct supervision by a teacher become a lot more difficult to organise (Luna-Bazaldua et al., 2020). For example, while there are ways how to organise high-stakes "*closed-book*" exams online, it is a lot more complex and technically difficult in an online setting (Luna-Bazaldua et al., 2020). More importantly however, using student-focused pedagogies requires more innovative ways of assessing student learning, addressing not just the knowledge a student acquires but also their skills-development. For example, eportfolios can give teachers a good understanding of a student's work and how they have progressed in their skills development over time.

More generally, formative assessment is key when working with students online, not only for the benefit of the students' sense of progress but also for the teacher to understand how students are coping with the online instruction implemented (The Chartered College of Teaching, 2022). Feedback should therefore not be considered a one-way practice going from teacher to student, but it is equally important for students to give direct or indirect feedback to teachers about the effectiveness of the online instruction implemented.

3 Examples and ideas of implementation

1. Examine the written record of student discussion postings and e-mails in order to keep abreast of evolving student understanding (Gaytan & McEwen, 2007).

2. Use a wide variety of assessment methods, including portfolios, self-assessments, peer evaluations, peer evaluations with feedback, quizzes, and asynchronous discussion (Gaytan & McEwen, 2007).

"things like portfolios, valuing a set of different assessment methodologies, was something that was learnt during this first year, which was very important (Portuguese Principal 2)

3. Deconstruct assignments "*into smaller, interim deliverables, thus affording the instructor multiple points at which to assess the students' developing mastery and supply appropriate feedback*" (Kearns, 2012).

4. Use rubrics to "*communicate target performance to students, and simplify grading for the instructor*" (Kearns 2012). Rubrics are particularly essential when using self- and peer-assessment as well as guiding students how to engage effectively in an online discussion (Kearns, 2012; Yang & Tsai, 2010).

5. Assign individual students to post a daily or weekly summary of online discussions and then to assess this summary, rather than all of the posts (Kearns, 2012).

6. Make use of automated feedback for example by building into the learning process regular short multiple choice quizzes that can give students' a sense of their progress through automated feedback can be helpful. This should not replace the personalised and qualitative feedback that the teacher should offer to a students work but it can bridge the time in between the moments when the teacher provides such more qualitative feedback to a student.

7. Consider using different media to provide feedback, for example through audio recordings talking about a students' work.

"A strategy I appreciated was delivering audio formative feedback (using Mote software), and video recording the screen with students' work, which improved the way I assessed my students giving them personalised feedback." (Irish Teacher 2)

8. Use portfolios for assessing students' progress and competence development when working with student-focused pedagogies.

9. Protect yourself from burnout by finding ways to automate, delegate or simplify feedback processes, without reducing the regularity and timeliness of feedback.

Additional resources

[Assessment and feedback in an online context: Checking understanding (Research Hub)]

[Giving good online feedback (M Online Teaching)]

"Moderating asynchronous student collaboration—on chat boards, for example—gives teachers an opportunity to provide feedback that clarifies misconceptions or deepens understandings. Teachers can also prepare virtual scaffolds ahead of time, providing digital anchor charts or recordings of themselves analysing an exemplar of student work."
Schwartz, 2020

"When an online teacher recognizes and validates every student's input in the discussion board, it allows the individual to see value in their own ideas and opinions. This can be the best way to engage students in their own learning process and build intrinsic motivation to continue to grow in the subject."
Michigan Virtual Learning Research Institute, 2022

Working with families

What is it about?

Working with families is about acknowledging the key role families can and often play in the learning process of students when working in online scenarios. Of course, the role of students' families is also important in onsite settings but due to the fact that many students will be learning from home in an online learning scenario, the role of families is accentuated. This refers to practical issues such as providing students with a place to study at home and making available the technical infrastructure to participate in online learning, but also includes the social, emotional, and pedagogical support that families can provide to students as part of the learning process. Teachers need to be aware of the role families can play in the learning process both negatively and positively and how to best activate families as a key resource to support a teachers' efforts.

Why is it important?

Research has repeatedly demonstrated that close engagement of families in students' learning is of key importance for students to succeed (Elliot et al., 2017; Mudrák et al., 2020; Waterford, 2018). In remote learning scenarios families play an even more important role than in onsite settings which is why teachers need to prioritize working with families accordingly. This applies in particular to younger students and students with special educational needs. For example, a study of the experiences of families of students with special educational needs during the school closures shows that *"parents played a double role of motivators and facilitators of learning, especially when teachers were not present"* (Carretero et al., 2021). Coy (2014) finds that parents of students with disabilities are sometimes more engaged when their children are learning online, either because their children's learning can be more personalised and they can work at their own pace, but also because their learning happens away from social and behavioural challenges of face-to-face environments which students and parents can experience as a relief. Parents should therefore be considered an integral part of the student's educational team, communicating with the teachers who rely on their daily monitoring and support, namely related to time management, work environment, tasks, goals and progress (Coy, 2014).

It is also important for teachers to work closely with families as families *"have more insight [when working online] on how their children are handling their schoolwork and coping"* (Dávila, 2022). Teachers therefore need to see their relationship with parents not as one focussed on reporting about students' progress but rather as a key resource to activate in order to support the students.

However, teachers also need to be aware of the large variety of students' family settings and potential negative impacts on students' learning emanating from the family setting (Gohl, 2020). A lack of a private learning space and unsolicited distractions through siblings, parents, neighbours, pets, etc. can make learning online for students more difficult. Some students might also have responsibilities in the household such as caring for siblings or doing chores that would get less in the way of learning if it were happening at school. Teachers can only help students address such issues if a close working relationship between family and teacher exists.

Coy (2014) also indicates how teachers can benefit from creating links between families so that they can support each other. This can be particularly beneficial for families of students with special educational needs or from marginalised communities, who can support each other with guidance and ideas on how best to support their children or how to deal with challenges linked to issues of racism, bullying, etc.

Examples and ideas of implementation

1. Involve families in community-building activities (see Building positive relationships section above) such as morning circles, whole-school assemblies, theme parties, etc. As part of this it can also help to connect families with each other so that they can support each other. This way you get to know them and build trust through positive relationships.

"There are lots of ways to bring families together, including in-school or community-based events, group email lists and social media. Teachers, school administrators, students, or parents and guardians can coordinate appropriate family connections based on the students' age and the composition of the community. Elementary school students, for example, may be more likely than high school students to enjoy attending events with their families." (Southern Poverty Law Center, 2022)

2. Support families by guiding them to become effective learning coaches or at least sharing with them some instruments and methods that allow them to support their children in an effective way. For example, provide them with practical suggestions about time management and how students should have frequent breaks in between learning. Also take time to explain to families what and why you are working with students in a particular way. These types of explanations can also avoid unrealistic or problematic expectations of parents of what remote teaching and learning should look like.

3. See your relationship with families not as one focussed on reporting about students' progress but rather as a key resource to activate in order to support the students. To achieve this encourage parents to reach out to you and give feedback on students' progress.

4. Give families access to learning management systems so that they can better monitor and help their children. Some learning management systems also allow for dedicated user accounts designed for parents or guardians.

5. Create communication channels that allow for easy, quick, and informal exchanges with parents. Especially when working with non-native speakers or parents without formal education it is important to keep the threshold for parents to reach out to you low, so avoid overly formal communication styles and channels.

6. Be clear with families about your boundaries regarding when and where to contact you, so as to protect yourself from burnout. Ensure that families are aware of other channels of support available to them.

7. Be also clear with families about appropriate boundaries of their involvement during synchronous sessions. For example, students should be attending synchronous sessions by themselves without a parent constantly watching over their shoulder.

"very important, to create these rules even for the parents, that the classes were for the children and the classes were so that the children were in their space, that they could have some ... some silence, harmony, some quality in this space so that they could also develop learning. (Portuguese Principal 2)

8. Increase transparency. Ensure that parents have access to their children's assessment information, including the results of interim and other assessments, along with guidance about how to interpret that information and access to resources and supports. Ensure that assessment reports are understandable and in parent-friendly language, as well as in the home language of the family.

9. Survey students and their families about the learning approaches used to help you and them to determine what works best.

Additional resources

Today's One Thing for Teachers: Remote Family Engagement (The Learning Accelerator)

Engaging Families in Distance Learning: Supporting from Afar (Getting Smart)

Universal design for learning

What is it about?

Universal Design for Learning is a framework developed by the Centre for Applied Special Technology (CAST) that helps teachers design learning environments in an inclusive way. Its main principle is to provide multiple means of representation, action and expression, and engagement. This means that, for example, a teacher is aware that students differ in the way they can be engaged and motivated to learn and therefore offers multiple ways to engage students. Some students might be engaged in tasks that are novel and spontaneous while others prefer strict routine and clear paths. To take another example, focussing on multiple means of action and expression, is when a teacher is aware that students have different types of access to technology tools and therefore offers students a choice about how they record the results of an experiment, instead of requiring students to record a video using their mobile phones. For more information about UDL and its three areas of representation, see here. Following the principles of Universal Design for Learning is relevant regardless of the learning setting but the online context offers powerful means to put UDL principles into action (Meyer & Rose, 2005; Ok & Rao, 2019) which teachers should be aware of. For example, the online environment offers many different means of communicating with students, be that using email, chat, video-conference, video messages, voice messages, etc. Similarly, information can often be accessed in multimodal ways online, depending on the preferences of the students (Rao, 2021). For example, students can choose to watch a video lecture or just listen to it, or they can download a transcript or read along via the subtitles. Many online video players also allow students to speed up or slow down a video, giving even more control to students over how to access the information. This means that teachers need not only be aware of the UDL framework but also of the opportunities offered by the online medium to create an inclusive learning environment following the UDL principles.

Why is it important?

Creating learning environments following the UDL principles is generally important as it can fulfil the core requirements of inclusive education for all. However, its importance in the online context is accentuated by the fact that evidence from the period of remote schooling during the Covid-19 lockdowns overwhelmingly shows that students from lower socio-economic backgrounds and those with special needs suffered the most, falling substantially behind peers from more affluent backgrounds or those without special needs (Carretero et al., 2021). While the conditions during the lockdowns were unique to a certain extent, many of the factors that inhibited the learning of students may continue to effect students with special needs or those from lower socio-economic backgrounds also as part of the "*new normal*". Elements such as limited access to required technologies, limited bandwidth at home, inadequate spaces for learning, and lack of parental support will continue to influence students from lower socio-economic backgrounds even when working online as part of the "*new normal*" (Carretero et al., 2021). Similarly, some of the challenges for students with special needs experienced during the lockdowns, such as the limited availability of accessible software and tools as well as a lack of adequate learning materials more generally, will continue to play a role beyond the lockdowns and need to be considered by teachers (Carretero et al., 2021).

Examples and ideas of implementation

1. Ensuring to offer multiple means of representation, action and expression, and engagement across everything we do is a daunting and time-consuming task. Therefore, group together with other subject teachers to share resources and activities to use for the purpose of multiple means of. If there are no other subject teachers at the school, find colleagues at other schools you can collaborate with. Online teacher communities like eTwinning or dedicated groups on social media offer plenty of opportunities to find like-minded colleagues who are willing to share. Moreover, once the right learning resources have been curated or created, they can be easily reused in subsequent years and the workload substantially reduces.

2. Make students aware of how technology can facilitate different ways to access information, for example by activating subtitles on YouTube videos or showing them how to speed up or slow down a video.

3. Set aside time to explicitly teach about the technology you'll use. Give students and families time to explore the online learning environment just as they would explore a physical classroom during an orientation or open house. (Jewett, 2020)

4. Check the accessibility of materials you create or use. For example, check to see if you can include captioning or speech-to-text for students who benefit from reading content. Or you can try virtual math manipulatives for those who benefit from visual representations. (Jewett, 2020)

5. Use content and activities in your teaching that allow for flexibility. For example, instead of offering a lecture as part of a synchronous session, pre-record it and let the students access it in their own time.

6. Give students choice in how to access information or conduct activities. For example, give students the option to come to a live Q&A session or to submit questions in advance and then watch the recording.

7. Give students freedom or at least some choice for the tools they can use for expression. For example, do not insist on students preparing a PowerPoint presentation but give them the freedom to choose an appropriate tool to visualize their ideas. As part of this ask them to reflect on and explain the reasons for selecting a certain tool.

8. Think about how you design your physical classroom to be accessible to all. Now think about how to design your online learning space with the same goal in mind. For instance, how are you displaying information to make sure students and families can easily locate it? (Jewett, 2020)

9. Ask students for feedback through surveys or exit polls on what worked and didn't work for them. Adapt your practices if necessary.

Conclusion

The pedagogical practices and examples offered in this report cover key priority areas to consider when addressing teaching and learning as part of the "*new normal*". Nevertheless, many practical questions that might be of imminent importance to teachers remain untouched. In particular, questions around which technology and tools to use or how to effectively use commonly used tools such as learning management systems are not directly addressed in the report. Similarly, the report does not give specific consideration regarding the particular dynamics of blending online and onsite learning, even though the practices and examples offered in the report are all relevant for blended learning scenarios. To address these questions in detail, teachers can start by consulting some of the supporting resources linked throughout the report.

The report also does not address the essential contextual factors, in particular at school level, that teachers need in order to implement effective pedagogical practices as part of the "*new normal*". Accordingly, it is paramount to accentuate that teachers cannot be expected to implement all the above-mentioned practices well without being offered the conditions, training, and time that is needed to effectively plan and implement such practices on a daily basis. For example, many teachers are fully aware of the importance of working closely with families but simply lack the time and capacity to effectively foster such relationships on a daily basis.

This report has drawn on the large body of literature and practical resources available that focusses on effective online learning and teaching practices. It is however worth noting that while the pandemic has led to a substantial increase in resources targeting school education, most of the research available still focusses on higher education. Although research and guidance materials targeting higher education can also be relevant for school education, it is nevertheless important to conduct more research focusing specifically on the dynamics of teaching and learning online at primary and secondary school level and to develop relevant guidance materials for teachers coming from such research.

References

Archambault, L., DeBruler, K., & Freidhoff, J. (2014). K-12 online and blended teacher licensure: Striking a balance between policy and preparedness. *Journal of Technology and Teacher Education*, *22*(1).

Bischoff, A. (2000). The elements of effective online teaching: Overcoming thebarriers to success. In *The online teaching guide: A handbook of attitudes, strategies, and techniques for the virtual classroom* (pp. 57–72). Allyn and Bacon.

Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *International Journal of Phytoremediation*, *21*(1). https://doi.org/10.1080/0969595980050102

Boettcher, J., & Conrad, R.-M. (1999). *Faculty Guide for Moving Teaching and*. 132.

Bowden, C. (2022). *How I reached students who disappeared during distance learning*. Understood. https://www.understood.org/articles/en/how-i-reached-students-who-disappeared-during-distance-learning

Butler, D. L., & Winne, P. H. (1995). Feedback and Self-Regulated Learning: A Theoretical Synthesis. *Review of Educational Research*, *65*(3), 245–281. https://doi.org/10.3102/00346543065003245

Campillo-Ferrer, J. M., & Miralles-Martínez, P. (2021). Effectiveness of the flipped classroom model on students' self-reported motivation and learning during the COVID-19 pandemic. *Humanities and Social Sciences Communications*, *8*(1), 176. https://doi.org/10.1057/s41599-021-00860-4

Carretero, S., Mägi, E., Bessios, A., Napierala, J., Gonzalez-Vazquez, I., Triquet, K., Montanari, M., Lombaerts, K., Ranieri, M., Pugacewicz, A., & Robledo-Bottcher, N. (2021). What Did We Learn from Schooling Practices during the COVID-19 Lockdown? Insights from Five EU Countries. JRC Science for Policy Report. In *European Commission*.

Center for Academic Innovation. (2020). *Giving good online feedback*. University of Michigan. https://onlineteaching.umich.edu/giving-good-online-feedback/

Chayka, K. (2021). What the "*Creator Economy*" Promises—and What It Actually Does. *The New Yorker*.

Cheng, Z., Watson, S., Watson, W., & Janakiraman, S. (2019). Attitudinal Learning in Large-Enrollment Classrooms: a Case Study. *TechTrends*, *64*. https://doi.org/10.1007/s11528-019-00462-7

Clarebout, G., & Elen, J. (2006). Tool use in computer-based learning environments: Towards a research framework. *Computers in Human Behavior*, *22*(3). https://doi.org/10.1016/j.chb.2004.09.007

Clark, C., Strudler, N., & Grove, K. (2015). Comparing asynchronous and synchronous video vs. Text based discussions in an online teacher education course. *Journal of Asynchronous Learning Network*, *19*(3), 48–69. https://doi.org/10.24059/olj.v19i3.510

Coy, K. (2014). Special Educators' Roles as Virtual Teachers. *TEACHING Exceptional Children*, *46*(5). https://doi.org/10.1177/0040059914530100

David, N., & Debra, M.-D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, *31*(2).

Dávila, B. (2022). *Today's One Thing for Teachers: Remote Family Engagement*. The Learning Accelerator. https://practices.learningaccelerator.org/insights/todays-one-thing-for-teachers-remote-family-engagement

de Bruin, K., & Sharma, U. (2021). *Lessons from lockdown: supporting inclusive teaching and learning for all*. School Education Gateway.

DeLozier, S. J., & Rhodes, M. G. (2017). Flipped Classrooms: a Review of Key Ideas and Recommendations for Practice. In *Educational Psychology Review* (Vol. 29, Issue 1). https://doi.org/10.1007/s10648-015-9356-9

Doucet, A., Netolicky, D., Timmers, K., & Tuscano, F. J. (2020). *Thinking about pedagogy in an unfolding pandemic: An independent report on approaches to distance learning during COVID-19 school closures*. *March*, 1–58.

Elliot, A. J., Dweck, C. S., & Yeager, D. S. (2017). Handbook of competence and motivation: Theory and application. In *Handbook of competence and motivation: Theory and application., 2nd ed.*

Engelhardt, K. (2021). *The future of schools beyond Covid-19*.

Gaggioli, C., Ranieri, M., & Fini, A. (n.d.). Synchronous teaching vs asynchronous learning during Covid 19. Lesson learnt from teachers, students and the families. *European Journal of Research on Education and Teaching*.

Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical Inquiry in a Text-Based Environment: Computer Conferencing in Higher Education. *Internet and Higher Education*, *2*(2–3). https://doi.org/10.1016/S1096-7516(00)00016-6

Gaytan, J., & McEwen, B. C. (2007). Effective online instructional and assessment strategies. *International Journal of Phytoremediation*, *21*(1). https://doi.org/10.1080/08923640701341653

Gohl, E. (2020). *Engaging Families in Distance Learning: Supporting from Afar*. Getting Smart.

Gorey, J. (2022). *Teaching in a Pandemic: How Educators Are Handling the Sudden Shift to Distance Learning*. Earthwatch.

Goyer, J. P., Cohen, G. L., Cook, J. E., Master, A., Apfel, N., Lee, W., Henderson, A. G., Reeves, S. L., Okonofua, J. A., & Walton, G. M. (2019). Targeted identity-safety interventions cause lasting reductions in discipline citations among negatively stereotyped boys. *Journal of Personality and Social Psychology*, *117*(2). https://doi.org/10.1037/pspa0000152

Hattie, J., & Timperley, H. (2007). Review of Educational The Power of Feedback. *Review of Educational Research*, *77*(1).

Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, M. (2020, March 27). The Difference Between Emergency Remote Teaching and Online Learning. *Educause Review*.

Jewett, L. (2020). *How to plan online lessons with Universal Design for Learning (UDL)*. Understood.

Kay, R. H., & LeSage, A. (2009). Examining the benefits and challenges of using audience response systems: A review of the literature. *Computers and Education*, *53*(3). https://doi.org/10.1016/j.compedu.2009.05.001

Kearns, L. (2012). Student Assessment in Online Learning: Challenges and Effective Practices. *Jolt.Merlot.Org*, *8*(3), 198–208. http://jolt.merlot.org/vol8no3/kearns_0912.htm

Kistner, S., Rakoczy, K., Otto, B., Dignath-van Ewijk, C., Büttner, G., & Klieme, E. (2010). Promotion of self-regulated learning in classrooms: Investigating frequency, quality, and consequences for student performance. *Metacognition and Learning*, *5*(2). https://doi.org/10.1007/s11409-010-9055-3

Ko, S., & Rossen, S. (2020). Building an Online Classroom. In *Teaching Online*. https://doi.org/10.4324/9780203855201-13

Lee, J., Lim, C., & Kim, H. (2017). Development of an instructional design model for flipped learning in higher education. *Educational Technology Research and Development*, *65*(2), 427–453. https://doi.org/10.1007/s11423-016-9502-1

Luna-Bazaldua, D., Liberman, J., & Levin V. (2020). *Moving high-stakes exams online: Five points to consider*. World Bank Blogs. https://blogs.worldbank.org/education/moving-high-stakes-exams-online-five-points-consider

Lynch, R., & Dembo, M. (2004). The relationship between self-regulation and online learning in a blended learning context. *The International Review of Research in Open and Distance Learning*, *5*(1).

McMahon, M., & Oliver, R. (2001). Promoting self-regulated learning in an on-line environment. In *World Conference on Educational Multimedia, Hypermedia & Telecommunications*.

Meyer, A., & Rose, D. (2005). The Future is in the Margins The Role of Technology and Disability in Educational Reform. *National Center on Universal Design for Learning*.

Michigan Virtual Learning Research Institute. (2022). *Teacher Guide to Online Learning*. https://michiganvirtual.org/resources/guides/teacher-guide/

Mudrák, J., Zábrodská, K., & Takács, L. (2020). Systemic Approach to the Development of Reading Literacy: Family Resources, School Grades, and Reading Motivation in Fourth-Grade Pupils. *Frontiers in Psychology*, *11*. https://doi.org/10.3389/fpsyg.2020.00037

Myung, J., Gallagher, A., Cottingham, B., Gong, A., Kimner, H., Witte, J., Gee, K., & Hough, H. (2020). Supporting Learning in the COVID-19 Context: Research to Guide Distance and Blended Instruction. In *Policy Analysis for California Education, PACE*.

Obsuth, I., Murray, A., Malti, T., Sulger, P., Ribeaud, D., & Eisner, M. (2017). A Non-bipartite Propensity Score Analysis of the Effects of Teacher-Student Relationships on Adolescent Problem and Prosocial Behavior. *Journal of Youth and Adolescence*, *46*. https://doi.org/10.1007/s10964-016-0534-y

Ok, M. W., & Rao, K. (2019). Digital Tools for the Inclusive Classroom: Google Chrome as Assistive and Instructional Technology. *Journal of Special Education Technology*, *34*(3). https://doi.org/10.1177/0162643419841546

Palloff, R. M., & Pratt, K. (1999). *Building learning communities in cyberspace: Effective strategies for the classroom*. Jossey-Bass.

Parikh, A., McReelis, K., & Hodges, B. (2001). Student feedback in problem based learning: A survey of 103 final year students across five Ontario medical schools. *Medical Education*, *35*(7). https://doi.org/10.1046/j.1365-2923.2001.00994.x

Pulham, E., & Graham, C. R. (2018). Comparing K-12 online and blended teaching competencies: a literature review. In *Distance Education* (Vol. 39, Issue 3). https://doi.org/10.1080/01587919.2018.1476840

Quin, D. (2016). Longitudinal and Contextual Associations Between Teacher–Student Relationships and Student Engagement: A Systematic Review. *Review of Educational Research*, *87*(2), 345–387. https://doi.org/10.3102/0034654316669434

Rao, K. (2021). Inclusive Instructional Design: Applying UDL to Online Learning. *Journal of Applied Instructional Design*, *10*(1). https://doi.org/10.51869/101/kr

Rowe, F. A., & Rafferty, J. A. (2013). Instructional design interventions for supporting self-regulated learning: Enhancing academic outcomes in postsecondary e-learning environments. *MERLOT Journal of Online Learning and Teaching*, *9*(4), 590–601.

Schwartz, S. (2020). *Classroom Routines Must Change. Here's What Teaching Looks Like Under COVID-19*. Education Week. https://www.edweek.org/teaching-learning/classroom-routines-must-change-heres-what-teaching-looks-like-under-covid-19/2020/08

Schweizer, H. (1999). *Designing and teaching an on-line course: Spinning your web classroom*. Prentice Hall.

Selim Bilgin, A., & Kralj, L. (2021). Learning lessons to build resilience in times of crisis. In *European Schoolnet Perspective* (Issue 8).

Shelton, K., & Saltsman, G. (2012). *Tips and Tricks for Teaching with Online: How to Teach Like a Pro! Dr. Kaye Shelton Summer 2012*. *May*, 1–13.

Snelling, J., & Fingal, D. (2020). *10 strategies for online learning during a coronavirus outbreak*. ISTE Blog. https://www.iste.org/explore/learning-during-covid-19/10-strategies-online-learning-during-coronavirus-outbreak

Southern Poverty Law Center. (2022). *Family and Community Engagement*. Learning for Justice. https://www.learningforjustice.org/magazine/publications/critical-practices-for-antibias-education/family-and-community-engagement

Stevens, M., & Rice, M. F. (2016). Inquiring into presence as support for student learning in a blended learning classroom. *Journal of Online Learning Research*, *2*(4).

Sveriges Elevkårer. (2020). *Uppföljande undersökning om gymnasieelevers upplevelse av distans- undervisning VT2020 Innehållsförteckning*.

The Chartered College of Teaching. (2022). *Assessment and feedback in an online context: Checking understanding*. Research Hub.

University of Alberta. (2022). *Synchronous and Asynchronous Teaching*. Support for Teaching. https://www.ualberta.ca/centre-for-teaching-and-learning/teaching-support/preparation/synchronous-asynchronous.html

Velegol, S., Zappe, S. E., & Mahoney, E. (2015). The evolution of a flipped classroom: Evidence-based recommendations. *Advances in Engineering Education*, *4*.

Waterford. (2018). *How Parent Involvement Leads to Student Success*. Waterford Website.

White, K. (2000). Face to face in the online classroom. In K. W. White & B. H. Weight (Eds.), *The online teaching guide* (pp. 1–12). Allyn and Bacon.

Yang, Y. F., & Tsai, C. C. (2010). Conceptions of and approaches to learning through online peer assessment. *Learning and Instruction*, *20*(1). https://doi.org/10.1016/j.learninstruc.2009.01.003

Ypsilandis, G. S. (2002). Feedback in distance education. *International Journal of Phytoremediation*, *21*(1). https://doi.org/10.1076/call.15.2.167.8191

European Schoolnet – EUN Partnership AISBL

Rue de Trèves 61, B-1040 Brussels

+32 (0)2 790 75 75

www.eun.org