THE 'FLIPPED' CLASSROOM – A METHOD FOR IMPROVING TEACHING AND LEARNING EVEN IN LARGE CLASSES

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Abstract

The Covid-19 pandemic has forced many of us to transform our approach to teaching and learning. Instead of standing in front of a class in the lecture hall or sitting around a table and interactively debating with students, we, as teachers, have found ourselves staring at students (or just their names) through such platforms as *Zoom* or *Teams* and overcoming the instances of hesitance or silence by, well, talking more. Sooner or later some, perhaps many, of us recognised this "trap of silence" and in searching for better approaches to online teaching began to use – intentionally or not – the flipped classroom method. In this text, I will share my experience from the spring semester of 2021, in which I used the flipped classroom method in a large group setting (over 150 enrolled students).

In the first part of this text, I will describe the course and implementation of the method. Then I will summarize its advantages and disadvantages and identify questions for further consideration. Throughout the paper, I include the experience of other teachers from the field of law and other disciplines to provide more context for my experience with the flipped classroom.

1. What is a Flipped Classroom?

The basic idea of the flipped classroom[2] is a shift (well, a flip) in the educational approach. In a typical class – be it online or offline – the teacher starts by introducing

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[2] See William R. Slomanson, 'Blended learning: A flipped classroom experiment' (2014) *J. LegaL educ.* 64(1), 93; Lutz-Christian Wolff, and Jenny Chan. *Flipped classrooms for legal education*. (Singapore:

the topic typically either through a lecture, or by providing the content in another way (for example by guided reading, playing a video, or having students share their experience). Then, possibly, comes the practice – by getting students to apply what has been covered by the teacher to cases and problems, or through completing exercises or debating content with their peers or the teacher. This practical aspect of learning, and in some cases almost all of it, happens after the class, often in the form of homework. Despite our familiarity with this pattern and despite the alleged logic behind this approach, there are two main problems with it.

First, contemporary educational theory suggests that there are better and more efficient ways to deliver the content other than by lecturing (which by the way most teachers, including those teaching clinical legal courses, tend to use more than necessary). In fact, some authors and studies point out that there are hardly any worse methods of teaching than lecturing and that we still keep lectures as a backbone of

Springer, 2016); Jacob Bishop and Matthew A. Verleger, *The flipped classroom: A survey of the research*. (2013) 120th ASEE Annual Conference and Exposition, June 23-26; Jalal Nouri. 'The flipped classroom: for active, effective and increased learning–especially for low achievers' (2016) *International Journal of Educational Technology in Higher Education*. 13 DOI: 10.1186/s41239-016-0032-z; Amy Roehl, Shweta Linga Reddy, and Gayla Jett Shannon, 'The flipped classroom: An opportunity to engage millennial students through active learning strategies' (2013) *Journal of Family & Consumer Sciences*. 105(2), 44; Zamzami Zainuddin and Siti Hajar Halili, 'Flipped Classroom Research and Trends from Different Fields of Study' (2016) *The International Review of Research in Open and Distributed Learning*, 17(3). https://doi.org/10.19173/irrodl.v17i3.2274; Marcela Castro and Sandra Aguirre, 'Flipped Classroom in Legal Education: Achievements and Challenges of Innovating the Teaching of a Basic Law Course' (2020) *International Journal of Learning and Teaching*, 6(2) doi: 10.18178/ijlt.6.2.119-124; Karim Hajhashemi, Nerina Caltabiano and Neil Anderson, 'Integrating digital technologies in the classroom: Lecturers' views on the flipped classroom approach' (2016) *Australian and International Journal of Rural Education*, 26(3), 17; Jacqueline E. McLaughlin, et al., 'Pharmacy student engagement, performance, and perception in a flipped satellite classroom' (2013) *American journal of pharmaceutical education*. DOI: 10.5688/ajpe779196; Mary Beth Gilboy, Scott Heinerichs, and Gina Pazzaglia, 'Enhancing student engagement using the flipped classroom' (2015) *Journal of nutrition education and behavior*, 47(1), 109; Brenda Alvarez, 'Flipping the classroom: Homework in class, lessons at home' (2012) *The Education Digest*, 77(8), 18; Khe Foon Hew and Chung Kwan Lo, 'Flipped classroom improves student learning in health professions education: a meta-analysis' (2018) *BMC medical education*, 18(38), https://doi.org/10.1186/s12909-018-1144-z; EDUCAUSE. *7 Things You Should Know About Flipped Classrooms* [online]. (2012) <https://library.educause.edu/resources/2012/2/7-things-you-should-know-about-flipped-classrooms>.

many curricula mainly because of two simple reasons: tradition and money.[3] Lectures are deeply rooted in our educational past and they are a relatively cheap form of delivery.

Secondly, the time students need us, the teachers, the most is when they apply principles in a practical context. Only then will they start truly asking questions about the content (Do I understand it correctly? Have I solved the problem? Is my way of reading the material the most effective? etc.), and only then will they be truly challenged. But ironically, this part of the class typically happens, at least partially, at home, when students have no direct contact with the teacher and typically also not with their fellow students.

As Binford observes, not even the traditionally used Socratic method is able to satisfyingly fix it.[4] Although it brought an important shift in law teaching after the Dean of Harvard Law School Langdell firstly introduced it in 1870s and continues to have its benefits, as described e.g. by the Carnegie report,[5] it clearly has its flaws and critics and needs to be used wisely and not as a universal teaching strategy.[6]

The flipped classroom design addresses these issues by shifting the phases of the lesson. The content is provided before the class in a form of a video, podcast, or

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[3] See Warren Binford, 'How to Be the World's Best Law Professor' (2015) *Journal of Legal Education*. 64, 542 or Graham Gibbs, 'Lectures don't work, but we keep using them' (2013) *Times Higher Education* https://www.timeshighereducation.com/news/lectures-dont-work-but-we-keep-using-them/2009141.article. Professor Binford formulates it rather clearly: "*Over 700 studies have confirmed what many of us know based on our own experience as students: Lectures are among the least effective methods for achieving almost every educational goal ever identified. In fact, for some education goals, lectures have been identified as the least effective learning method. Others suggest that they may be worse than no teaching at all since attending a lecture leads to less studying afterward.*"

[4] Warren Binford, 'How to Be the World's Best Law Professor' (2015) *Journal of Legal Education*. 64, 542.

[5] William M. Sullivan et al. *Educating Lawyers: Preparation for the Profession of Law*. (John Wiley & Sons, 2007).

[6] Warren Binford, 'How to Be the World's Best Law Professor' (2015) *Journal of Legal Education*. 64, 542; Benjamin V. Madison, 'The Elephant in Law School Classrooms: Overuse of the Socratic Method as an Obstacle to Teaching Modern Law Students' (2007) *University of Detroit Mercy Law Review*, 85, 293. Binford summarizes the drawbacks of the Socrative method as follows: "*Criticisms include the use of the method in abusive and insensitive ways and the fact that the approach is 'too narrow' and trains students, more for conflict than the gentler arts of reconciliation and accommodation.*"

reading and the time spent in the class is used for practical activities: debate about the content, addressing case studies, formulating follow-up questions, introducing more content, exploring context, or generally challenging students in whatever way teachers find appropriate.

The idea that a teacher standing in front of tens or indeed hundreds of students may be replaced by videos available on e-learning platforms might certainly feel as a loss, a departure from romantic old-fashioned education portrayed numerous times in films and other pieces of popular culture. Yet it would be wrong to dwell on this image solely because we were used to organize learning and teaching in this way. The pandemic forced us to learn to do things differently and we should be careful what the new normal of higher education would look like. Once lectures are recorded and the synchronous meetings used for debates with students, covering additional topics and applying the content to real cases, we might well be on the way to a more meaningful and effective educational model. It should not bother us that the current impulse for this change was not an international conference or release of a ground changing study, but a virus.

2. My Personal Experience with a Flipped Classroom

During the spring semester of 2021, a colleague of mine and I decided to flip our Sociology of Law course. We had little experience with this method and we knew that to bring whatever change into a course for over 150 students logically tends to be more difficult than in smaller courses. Due to the pandemic, we needed to stay entirely online. Our flipped course looked like this:

At the first meeting with the students, we introduced the method and spent time explaining the reasons for the change, naturally stressing the benefits of using the method. Since the approach transfers more responsibility for learning to students, the motivational aspect of the first seminar cannot be overemphasized.

Five days before each of our weekly classes (starting from week two), we published materials for the class in our e-learning platform (Moodle). It included texts (collectively not more than 50 pages) and an audio or video (10 – 45 minutes) in which we offered students guidance on how to read the texts, introduced basic concepts and provided context. Together with the materials, students received four relatively broad questions, which directed them to the major issues in the materials. One day before the seminar, we shared a multiple-choice quiz (10-15 questions) checking their understanding of the materials and topics that had been provided. Each of the 3-4 quiz questions elaborated on one of the 4 broad questions students received with the content materials.

During each of our classes, we spend first 15 minutes or so going through the quiz. We used Google forms, which allowed us to make a self-assessing quiz that gave the students the designated correct answers and included comments from the teacher right after the submission. Additionally, it allowed students to retake the quiz as many times as they wanted – both before the class, and before the final exam (as authors of the *Make it stick* book[7] point out, tests are a bad assessment method, but are a great method of learning, especially self-learning).[8] When students arrived in the class, there was no need to give them the right answers and go through all the questions, we concentrated only on typical mistakes and difficult points. It also helped to prevent the challenge of some flipped classes: to come to class and just "*repeat content that has been delivered online*".[9] Since we saw the quizzes as a revision as well as learning tool and not a testing device, we even encouraged students to challenge the answers, come with more fitting options and help us to make the quizzes even better.

[7] Peter C. Brown, Henry L. Roediger (III), and Mark A. McDaniel *Make it Stick*. (Harvard University Press, 2014).
[8] Warren Binford, 'How to Be the World's Best Law Professor' (2015) *Journal of Legal Education*. 64, 542.
[9] See: Karim Hajhashemi, Nerina Caltabiano and Neil Anderson, 'Integrating digital technologies in the classroom: Lecturers' views on the flipped classroom approach' (2016) *Australian and International Journal of Rural Education*, 26(3), 17.

During next 20-25 minutes, we went through 4 broad questions, which students received in advance with the materials. Since these questions were going to be used for the final exam (and students knew this from week one), we wanted to make sure that all students knew what materials provide answers, where the controversies lay and how relevant these topics were for law students (it was, after all, Sociology of Law class that some future lawyers might underestimate as irrelevant). One or two of these questions were assigned to online break-out rooms to give students the opportunity to share the results of their work and work together on a collective response. Even with over 150 students participating, when divided into groups of 5-6, it was possible to give them time to tackle the topic in a more intimate setting. Each group then shared their solutions/arguments in a shared document (to avoid lengthy oral briefings) and the teacher provided a more general commentary. When a controversial idea appeared, we spent more time on it, with the most active students formulating their thoughts. The main points of the other 2-3 questions were rather quickly summarized by the teacher.

The following 5-10 minutes provided room for other questions the students might had come across when preparing for the class. As a backup, we also had one or two more challenging questions ready. During the last couple of minutes of the meeting, we provided a quick summary of key points and introduced the topic for the following week.

Interestingly, some students wanted to stay longer and debate topics in more depth. I welcomed that and gradually turned that into an "official unofficial part of the class": towards the end of each meeting, I offered to stay with students after the class (it typically took another twenty to sixty minutes). It resembled a small seminar for 10-15 active students, who were bringing their inquiries (and disagreements, of course) and debating enthusiastically. In my experience, the online delivery was in fact beneficial in this regard, since after offline class my students of this course typically

either leave, or come up to ask a quick individual question. No doubt, the impact of lockdowns, when people tend to hunger for social contact, played its role.

To support students' motivation and prevent them from falling off the course, we decided to give them a credited test every month (typically after every three weeks of teaching). These tests consisted entirely of questions from the weekly quizzes, we only slightly altered them (e.g. changed a positive statement into a negative or altered the name of the mentioned author) to make sure students read the options and did not just copy the correct answers. They needed to pass these tests (receive at least 50 %) to be allowed to take the exam at the end of the course. The tests thus were, as W. Binford recommends, low-risk tests administered outside of the classroom with low or no impact on the student's grade.[10]

3. Benefits of the Flipped Classroom

Based on my experience with the flipped classroom, I see five major benefits of the method. They are as follows:

1. Providing the content materials before the class allowed us to cut the length of weekly synchronous Zoom meetings to roughly half of the typical session length (45-60 minutes instead of 90 minutes). Based on the experience of mine, many of my colleagues and our students from teaching during the pandemic, as well as recommendations for synchronous teaching, good online delivery is rather short.[11] Similarly, many authors report the necessity to combat the "Zoom fatigue",[12] effecting majority of participants in synchronous meetings

[10] Warren Binford, 'How to Be the World's Best Law Professor' (2015) *Journal of Legal Education*. 64, 542.
[11] Christina Sabo, *Best Practices for Synchronous Online Teaching and Learning | Learning Technologies at College of DuPage* [online] (2020) <https://www.codlearningtech.org/2020/10/05/best-practices-for-synchronous-online-teaching-and-learning/>; Amy Wallace, 'Cyberspace Back to the Classroom: Taking Lessons Learned from Teaching Street Law during the Pandemic Back to In-Person Instruction' (2021) *International Journal of Clinical Legal Education.* 28(2).
[12] Jutta Rump and Marc Brandt, 'Zoom-Fatigue' (2020) *Eine Studie des Instituts für Beschäftigung und Employability. IBE, Ludwigshafen* <https://www.ibe-ludwigshafen.de/wp-content/uploads/2020/09/Folien_IBE-Studie_Zoom-Fatigue.pdf>; Liz Fosslien and Mollie West Duffy, 'How to combat zoom fatigue' (2020) *Harvard Business Review*. 2020, <https://hbr.org/2020/04/how-to-

(one study reported that approximately 60% of respondents state experience with it).[13] It leads, among others, to reduced concentration and impatience. One of the most effective solutions, well in line with our teaching experience, is to "*limit the meeting time*" as well as include frequent "*breaks between and within meetings*".[14] A. Wallace recommended her Street Law students to limit „ *screen for less than an hour – ideally around forty-five minutes*" and implemented „*a 30/30/30 classroom framework. This schedule was thirty minutes on Zoom, thirty minutes for an independent assignment, and then thirty minutes of Zoom.*"[15]

2. One of the greatest difficulties of the typical lecture (and to some degree of all teaching) is that it is inevitably delivered at a wrong pace. For some students it runs too quickly, some are bored by its slowness; some are more mentally alert in the morning, and for some their brains only start properly working in the afternoon.[16] By providing the content in a form of a video, podcast or text, students can respect their rhythms, study at whatever speed suits them (I do not mind being played at the 2x, or indeed 0.5x speed) and can revisit the

combat-zoom-fatigue>; Jeremy N. Bailenson, 'Nonverbal overload: A theoretical argument for the causes of Zoom fatigue' (2021) *Technology, Mind, and Behavior*, 2(1) DOI: 10.1037/tmb0000030; Amy Wallace, 'Cyberspace Back to the Classroom: Taking Lessons Learned from Teaching Street Law during the Pandemic Back to In-Person Instruction' (2021) *International Journal of Clinical Legal Education.* 28(2).

[13] Jutta Rump and Marc Brandt, 'Zoom-Fatigue' (2020) *Eine Studie des Instituts für Beschäftigung und Employability. IBE, Ludwigshafen,* https://www.ibe-ludwigshafen.de/wp-content/uploads/2020/09/Folien_IBE-Studie_Zoom-Fatigue.pdf.

[14] ibid. Other solutions might include, as Jeremy N. Bailenson points out "… *changes to the design of the Zoom interface. For example, the default setting should be hiding the self-window instead of showing it, or at least hiding it automatically after a few seconds once users know they are framed properly. Likewise, there can simply be a limit to how large Zoom displays any given head… Outside of software, people can use an external webcam and external keyboard that allows more flexibility and control over various seating arrangements. Make "audio only" Zoom meetings the default, or better yet, insist on taking some calls via telephone to free your body from the frustrum.*" Jeremy N. Bailenson, 'Nonverbal overload: A theoretical argument for the causes of Zoom fatigue' (2021) *Technology, Mind, and Behavior*, 2(1) DOI: 10.1037/tmb0000030.

[15] Amy Wallace, 'Cyberspace Back to the Classroom: Taking Lessons Learned from Teaching Street Law during the Pandemic Back to In-Person Instruction' (2021) *International Journal of Clinical Legal Education.* 28(2).

[16] Geoff Petty, *Teaching today: a practical guide*. (Oxford University Press, 2016); Warren Binford, 'How to Be the World's Best Law Professor' (2015) *Journal of Legal Education*. 64, 542.

material if needed, which is what many authors report students enjoy.[17] I personally hugely enjoyed the fact that I didn't have to look at bored student faces and know that whatever I do, the way I lecture – even when I do it interactively and only for a couple of minutes here and there during each seminar – is doomed to be truly beneficial only to a minority of students, since for the majority of them it will inevitably be at a wrong pace.[18] Moreover, during the pandemic, many people needed to undertake new duties and benefited from the flexibility the flipped classroom gave them. As J. Nouri observed in his study, "*students appreciated learning through using video material, the opportunity to study in their own pace, flexibility and mobility brought about by accessible video lectures, and that learning is easier and more effective within the frame of the flipped classroom.*". [19]

To find the right pace of teaching is difficult in all classes but the larger the group and the less frequent interaction between the teacher and the students, the more difficult this task gets. Lectures are, as pointed out earlier, popular by managers of education partly because they can accommodate many students at one time (hundreds, like in our course of Sociology of Law, and in some cases even thousands). While it is true that implementing flipped classroom does not decrease the number of students in the group, it does offer some solution to finding an appropriate teaching pace by allowing students to study the content of the lesson at their own pace before the class and

[17] See the results of Jalal Nouri. 'The flipped classroom: for active, effective and increased learning–especially for low achievers' (2016) *International Journal of Educational Technology in Higher Education*. 13 DOI: 10.1186/s41239-016-0032-z; Karim Hajhashemi, Nerina Caltabiano and Neil Anderson, 'Integrating digital technologies in the classroom: Lecturers' views on the flipped classroom approach' (2016) *Australian and International Journal of Rural Education*, 26(3), 17; Amy Wallace, 'Cyberspace Back to the Classroom: Taking Lessons Learned from Teaching Street Law during the Pandemic Back to In-Person Instruction' (2021) *International Journal of Clinical Legal Education.* 28(2); Gregory. S. Mason, Teodora. R. Shuman and Kathleen. E. Cook, 'Comparing the Effectiveness of an Inverted Classroom to a Traditional Classroom in an Upper-Division Engineering Course' (2013) *IEEE Transactions on Education*, 56(4), 430.

[18] See Geoff Petty, *Teaching today: a practical guide*. (Oxford University Press, 2016).

[19] Jalal Nouri. 'The flipped classroom: for active, effective and increased learning–especially for low achievers' (2016) *International Journal of Educational Technology in Higher Education.* 13 DOI: 10.1186/s41239-016-0032-z.

restrict the class time for interactions – between students and students and the teacher –, which is something traditional lectures lack and even modern interactive lectures typically do not provide in sufficient amount.[20] It is only fair to add that finding the right teaching tempo might be challenging even for smaller courses and small group sessions, while even there some students work slower and some faster. Therefore, thinking about flipping some parts of even smaller courses does make sense and might in fact lead to even more profound changes in course effectiveness.[21] Effectiveness of flipping the courses is supported also by experience from other areas, e.g. health professions education.[22]

1. Students are given greater responsibility for their own learning. They must find time to cover the content materials and prepare answers for the provided questions. It is up to them to decide whether they want to study alone or with their fellow students. As other authors observe, passing more responsibility for learning to students, when done correctly, tends to increase their motivation and effectivity of learning.[23] Correspondingly, the role of the teacher changes: from lecturing stars in the class spotlight they become more managers of the course, facilitators of discussion and students' learning; and a hopefully valuable resource.

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[20] For the importance of teaching interactively, see e.g. Nadezhda O. Yakovleva and Evgeny V. Yakovlev, 'Interactive teaching methods in contemporary higher education' (2014) *Pacific Science Review*, 16(2) 75; Amy Wallace, 'Cyberspace Back to the Classroom: Taking Lessons Learned from Teaching Street Law during the Pandemic Back to In-Person Instruction' (2021) *International Journal of Clinical Legal Education.* 28(2).

[21] For different flipped classroom formats, see: Jacob Bishop and Matthew A. Verleger, *The flipped classroom: A survey of the research*. (2013) 120th ASEE Annual Conference and Exposition, June 23-26.

[22] Khe Foon Hew and Chung Kwan Lo, 'Flipped classroom improves student learning in health professions education: a meta-analysis' (2018) *BMC medical education*, 18(38), https://doi.org/10.1186/s12909-018-1144-z.

[23] Josephine Bujan, 'Increasing Students' Responsibility for Their Own Learning' (1996); Lyn Corno, 'Encouraging students to take responsibility for learning and performance' (1992) *The Elementary School Journal*. 93(1), DOI https://doi.org/10.1086/461713; Gregory. S. Mason, Teodora. R. Shuman and Kathleen. E. Cook, 'Comparing the Effectiveness of an Inverted Classroom to a Traditional Classroom in an Upper-Division Engineering Course' (2013) *IEEE Transactions on Education*, 56(4), 430; Brenda Alvarez, 'Flipping the classroom: Homework in class, lessons at home' (2012) *The Education Digest*, 77(8), 18.

2. The core of my work happens before the class (choosing the right texts, record a video, prepare the quiz and the synchronous meeting) and there are far fewer reasons to feel stressed about the class ("How well will I lecture today?"). To record oneself may be stressful, too (and it certainly was for me at the beginning), and time-consuming[24], but I enjoyed that I could record the video as many times as I wanted to and as the number of attempts was steadily decreasing during the semester, since I got used to the camera and became less self-critical, I needed far less time to finish the video.[25] Eventually, I chose only audio format, which simplified the process even further. Another great support was that the videos could be made available only to signed-in students and not all university students or even the whole internet, and only for limited time span (the current semester). Like students, teachers also enjoy more flexibility in a flipped class. With proper preparation, the synchronous meetings should run smoothly, supported by the energy of students' questions and interest in the topic, which is typically sparked by the provided content material and the questions.

3. I found it is far easier and quicker for me to cover the basics of each topic by flipping the class, which allows me to devote more time to its more difficult aspects. With the content provided via recorded videos or texts that students can revisit when it suits them and use when studying for the exam, with comprehension tested through self-evaluating weekly quizzes and with students having the opportunity to formulate their questions in synchronous meetings, I am far more confident that we really covered the basics in this way. During the weekly meetings, we could therefore spend most of the time discussing more challenging rather than basic issues. Additionally, I was far

[24] Karim Hajhashemi, Nerina Caltabiano and Neil Anderson, 'Integrating digital technologies in the classroom: Lecturers' views on the flipped classroom approach' (2016) *Australian and International Journal of Rural Education*, 26(3), 17.

[25] See also William R. Slomanson, 'Blended learning: A flipped classroom experiment' *Journal of Legal Education*, 64(1), 93.

more confident that we examined what was truly covered in the course (it was not only "said" during the class, but is stored in videos, podcasts, texts and quizzes students have at their hands). This experience is supported by the data from other courses. One study e.g. found that the flipped classroom model "*allowed the instructor to cover more material*" and that students "*performed as well or better on comparable quiz and exam questions and on open-ended design problems*".[26]

4. Weak Points of a Flipped Classroom and How we Addressed them

As any method, also flipped classroom has its disadvantages.[27] Based on my experience with the method, these stranded out for me:

1. By transferring more responsibility for the learning process to students, teachers naturally lose some control. As a large portion of the student work is done at home, the teacher has no guarantee that students have actually watched assigned videos or read the required texts. Some students might even get lost on the way and de facto drop out of the course during the semester. Understandably, these possibilities are even more relevant in online courses. Other authors also identify students' engagement as an important challenge in flipping a class.[28]

To mitigate these risks, we ran weekly quizzes that provided basic feedback to both students and teachers and gave students credited tests every three weeks to keep them engaged during the semester and alleviate pressure typical for the last course week

[26] Gregory. S. Mason, Teodora. R. Shuman and Kathleen. E. Cook, 'Comparing the Effectiveness of an Inverted Classroom to a Traditional Classroom in an Upper-Division Engineering Course' (2013) *IEEE Transactions on Education*, 56(4), 430.

[27] A good summary of challenges of flipped courses contains this meta-study: Gökçe Akçayir and Murat Akçayir, 'The flipped classroom: A review of its advantages and challenges' (2018) *Computers & Education*, 126, 334. The most often mentioned in analysed studies are these: time consuming, quality of videos, limited student preparation before class, workload increase.

[28] Karim Hajhashemi, Nerina Caltabiano and Neil Anderson, 'Integrating digital technologies in the classroom: Lecturers' views on the flipped classroom approach' (2016) *Australian and International Journal of Rural Education*, 26(3), 17.

when tests are more typically taken. This approach is in line with the current scientific research of effective learning, which favours frequent, low-risk testing.[29] As W. Binford summarizes it, "*self-testing… and low-risk testing that can be administered outside of the classroom with low or no impact on the student's grade… is a 'high-utility' learning method… we need to test our students earlier, more, and in low-risk settings if we want to increase their retention, comprehension, and test performance on that high-stakes final exam that we rely on for final assessment, as well as the bar exam after they graduate.*"[30] Similarly, a meta-analyses of flipped health professions courses found that their effectiveness increases when "*instructors use quizzes at the start of each in-class session*".[31]

Moreover, we deliberately included group work[32] in synchronous meetings to activate peer-pressure and give students the opportunity to discuss their understanding of the assigned home materials and experience at least some teamwork. It also helped us to realize that simply attending lectures does not guarantee learning, when students remain passive inside but can even make things worse; it creates an illusion that students are "in certain way in contact with the topic" and deprives students of precious time for studying (even 45 minutes a week makes for a substantial portion of a study time).[33] Some studies also recommend not to apply this method to students of

[29] Warren Binford, 'How to Be the World's Best Law Professor' (2015) *Journal of Legal Education*. 64, 542; Harry P. Bathrick and Lynda K. Hall, 'The importance of retrieval failures to long-term retention: A metacognitive explanation of the spacing effect' (2005) *Journal of Memory and Language*, 52(4), 566; Nicholas C. Soderstrom and Robert A. Bjork, 'Testing facilitates the regulation of subsequent study time' (2014) *Journal of Memory and Language*, 73(1), 99.

[30] Warren Binford, 'How to Be the World's Best Law Professor' (2015) *Journal of Legal Education*. 64, 542; John Dunlosky, et al. 'Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology' (2013) *Psychological Science in the Public Interest*, 14(1), DOI: https://doi.org/10.1177/1529100612453266.

[31] Khe Foon Hew and Chung Kwan Lo, 'Flipped classroom improves student learning in health professions education: a meta-analysis' (2018) *BMC medical education*, 18(38), https://doi.org/10.1186/s12909-018-1144-z.

[32] For its importance, see e.g. Gökçe Akçayir and Murat Akçayir, 'The flipped classroom: A review of its advantages and challenges' (2018) *Computers & Education*, 126, 334; Amy Wallace, 'Cyberspace Back to the Classroom: Taking Lessons Learned from Teaching Street Law during the Pandemic Back to In-Person Instruction' (2021) *International Journal of Clinical Legal Education.* 28(2).

[33] See Warren Binford, 'How to Be the World's Best Law Professor' (2015) *Journal of Legal Education*. 64, 542; and Jalal Nouri, 'The flipped classroom: for active, effective and increased learning–especially for low achievers' (2016) *International Journal of Educational Technology in Higher Education*. 13 DOI:

the first year (which was the case of our course), since they need to familiarize with the university education first.[34]

2. Teachers need to accept both the change of their role and that of an acceptable format of study materials. While traditional teaching methods – and lectures in particular – are "one teacher's show", where the teacher does most of the work (no wonder they are tired afterward), in flipped classes they become more managers of the course, facilitators of discussions and supporters of the students' learning process. Not every teacher is ready for such a shift and even those who are persuaded that they are will repeatedly find themselves talking during the classes far more than necessary. Old habits die hard as the saying goes. We certainly did and needed to repeatedly remind ourselves of the benefits of the flipped approach that might be ruined by teachers assuming too much activity in the class. Apart from the role of the teacher, the format of the study materials needs thought and development[35] – not only lectures (typically recorded and shortened into more digestible versions) and texts (textbooks, articles) but other aids such as short videos and podcasts are being used.[36] In this regard, the pandemic has certainly helped to open us towards using technology and a range of formats, which we previously overlooked or marginalized.[37]

10.1186/s41239-016-0032-z, s. 13., which concluded that "…*this study indicate that the flipped classroom model seem to offer promising ways to engage students in more effective, supportive, motivating and active learning, especially for low achievers and students that may struggle with traditional lectures."*

[34] Gregory. S. Mason, Teodora. R. Shuman and Kathleen. E. Cook, 'Comparing the Effectiveness of an Inverted Classroom to a Traditional Classroom in an Upper-Division Engineering Course' (2013) *IEEE Transactions on Education*, 56(4), 430; Karim Hajhashemi, Nerina Caltabiano and Neil Anderson, 'Integrating digital technologies in the classroom: Lecturers' views on the flipped classroom approach' (2016) *Australian and International Journal of Rural Education*, 26(3), 17.

[35] Some authors require that the materials provided in flipped classroom before the class are videos, not written materials. See: Jacob Bishop and Matthew A. Verleger, *The flipped classroom: A survey of the research*. (2013) 120th ASEE Annual Conference and Exposition, June 23-26.

[36] For varieties of the flipped classroom method, see: ibid.

[37] For concrete instances of out-of-class activities in flipped courses that might be used with the help of technology, as well as challenges that they bring, see the following meta-study: Gökçe Akçayir and

3. Last but not least, any change requires extra input – resource-wise and in terms of time and energy. To follow the status quo is typically – in the short run at least – less demanding, while flipping things around needs effort. The larger the group the more input may be required even if key considerations remain the same. Most of the "transactional costs" of the change lie with teachers, who need to say goodbye to some (or indeed most of) of their previous lesson plans and devote extra time to finding appropriate readings, record videos and prepare quizzes.[38] But also students need to get used to a new model of class organization, especially when they have not yet experienced a flipped classroom before. It certainly helped us to introduce the method and its benefits at the very first meeting and repeatedly remind ourselves and sometimes also the students about why this new format has been chosen.

Based on the course evaluation, students support implementing the method (54 % respondents see it as a positive change) and especially appreciate recording videos (66 % of them would even prefer to have them for every lesson) and group work during synchronous meetings. The number of students attending the course was not decreasing, which had rather been a norm in previous years. However, the evaluations also revealed that some students felt overwhelmed and considered the provided materials too demanding, which seems to be the most common challenge in a flipped course.[39] For the next year, we clearly need to better both prepare and accommodate students' expectation of the course and reconsider the length and scope

Murat Akçayir, 'The flipped classroom: A review of its advantages and challenges' (2018) *Computers & Education*, 126, 334.

[38] To see how demanding this task may be, see: Karim Hajhashemi, Nerina Caltabiano and Neil Anderson, 'Integrating digital technologies in the classroom: Lecturers' views on the flipped classroom approach' (2016) *Australian and International Journal of Rural Education*, 26(3), 17.

[39] See e.g. this meta-study: Gökçe Akçayir and Murat Akçayir, 'The flipped classroom: A review of its advantages and challenges' (2018) *Computers & Education*, 126, 334.

of provided materials. The experience of other teachers suggest that videos tend to be more effective than texts and that their length might be reduced.[40]

This experience is in line with previous research. As observed in one of the studies, "*students recognized that the new format required self-discipline and necessitated some adjustment to their study habits. By week four, students felt that the flipped class was a better use of class time and that the format better prepared them for engineering practice.*"[41] Moreover, over the course, students may indeed start watching the videos more often (e.g. one study found that videos tend to be watched almost 3 times by every student).[42]

Additionally, based on the experience with remote teaching of flipped and traditional courses during the pandemic, I will seriously consider using some proven interactive tools even during face-to-face meetings, such as Jamboard, Kahoot or Padlet.[43] Likewise, I am ready to make use of technology and invite virtual guest-lectures, which will allow me to bring professionals from the field and experts from other countries.[44] The experience with embracing the online dimension of our work and not leaving it completely once schools fully reopen is shared by many teachers and runs e.g. through the papers published in the special issue of the International Journal of Clinical Legal Education from 2020, which maps the responses to coronavirus in clinical and public legal education.[45]

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[40] See: Jacob Bishop and Matthew A. Verleger, *The flipped classroom: A survey of the research*. (2013) 120th ASEE Annual Conference and Exposition, June 23-26. For the question of the video's length, see the last part of this paper.

[41] Gregory. S. Mason, Teodora. R. Shuman and Kathleen. E. Cook, 'Comparing the Effectiveness of an Inverted Classroom to a Traditional Classroom in an Upper-Division Engineering Course' (2013) *IEEE Transactions on Education*, 56(4), 430.

[42] ibid.

[43] Amy Wallace, 'Cyberspace Back to the Classroom: Taking Lessons Learned from Teaching Street Law during the Pandemic Back to In-Person Instruction' (2021) *International Journal of Clinical Legal Education.* 28(2).

[44] See ibid.

[45] Hugh McFaul and Francine Ryan, 'Special Issue - Clinical and Public Legal Education: Responses to Coronavirus' (2020) *International Journal of Clinical Legal Education*, 27(4).

5. Questions for Further Thought

Despite the generally positive experience with the method, several aspects require further consideration. They might represent space for further development or shortcoming (or even a trap) of the method – I clearly need more experience with the flipped approach to be able to tell. Some of these issues have indeed been addressed by other teachers, whose experience I take as an inspiration.

a) How much content material should be provided before the class? Generally, the shorter the videos the more students watch them.[46] Some authors recommend limiting yourself to only circa 10 minutes long video.[47] But would not it mean that students will naturally stay only on the surface of the topic, unable to address its more difficult aspects? We used combination of circa 30 minutes long video/audio recordings and texts of up to 50 pages.

b) For the sake of both students and teachers, we started each session with a quick non-credited quiz testing students' understanding of the provided materials. Many other teachers did the same, sometimes upon recommendations of their students, and considered it a "*highly successful practice*".[48] Some authors suggest that classes may successfully run without these quizzes, since students are adult enough to prepare responsibly for the class and understand the topic.[49] However, wouldn't even responsible students benefit from checking their understanding through weekly quizzes?[50] Can teaching effectively work even without these entrance tests, especially in large courses?

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[46] Jacob Bishop and Matthew A. Verleger, *The flipped classroom: A survey of the research*. (2013) 120th ASEE Annual Conference and Exposition, June 23-26.

[47] William R. Slomanson, 'Blended learning: A flipped classroom experiment' *Journal of Legal Education*, 64(1), 93; EDUCAUSE. *7 Things You Should Know About Flipped Classrooms*. Shorter vid

[48] Jacob Bishop and Matthew A. Verleger, *The flipped classroom: A survey of the research*. (2013) 120th ASEE Annual Conference and Exposition, June 23-26.

[49] William R. Slomanson, 'Blended learning: A flipped classroom experiment' *Journal of Legal Education*, 64(1), 93.

[50] See Peter C. Brown, Henry L. Roediger (III), and Mark A. McDaniel *Make it Stick*. (Harvard University Press, 2014).

c) In what ways can we include students in the design of a flipped course? They can surely prepare a quiz checking their basic understanding of the content materials and perhaps make collective notes from the class saved into a shared document, but can they make introductory videos or organize synchronous meetings?

d) A flipped class clearly demands more active students than in traditional settings and might not suit everybody. As a meta-study on flipped classroom summarizes, "*general reports of student perceptions were relatively consistent. Opinions tended to be positive, but there were invariably a few students who strongly disliked the change*".[51] What other strategies – apart from quizzes, short videos and interactive, student-oriented synchronous meetings – can be used to positively increase student motivation and experience from a flipped class? The literature evaluating the effectiveness of a flipped classroom has many more to offer (e.g. problem solving, groups projects, concept mapping or word clouds).[52]

Without overlooking the negative side of flipping a class, nor forgetting the questions raised above, I came to the conclusion that its advantages prevail and I intend to use it in the future, be that at distant and/or in face-to-face learning situations. My expectation, based on the experience of others,[53] is that it will work even better face-to-face since physical interaction is more likely to aid participation and engagement –

[51] Jacob Bishop and Matthew A. Verleger, *The flipped classroom: A survey of the research*. (2013) 120th ASEE Annual Conference and Exposition, June 23-26. Also a meta-study from the field of health professions education reveals that „m*ore respondents reported they preferred flipped to traditional classrooms*.". HEW, Khe Foon – LO, Chung Kwan. *Flipped classroom improves student learning in health professions education: a meta-analysis*.

[52] See: Khe Foon Hew and Chung Kwan Lo, 'Flipped classroom improves student learning in health professions education: a meta-analysis' (2018) *BMC medical education*, 18(38), https://doi.org/10.1186/s12909-018-1144-z.

[53] William R. Slomanson, 'Blended learning: A flipped classroom experiment' *Journal of Legal Education*, 64(1), 93.

which is an experience many of us were forced to learn during the pandemic.[54] By flipping the course even in its face-to-face version and providing the content of the lesson in advance, there will be far more time and space for interactive elements such as group work and discussion. These elements are typically enjoyed by both students and teachers and flipping a class provides more space for them, since it frees much of the time of synchronous meetings.[55] Recorded videos/audios available during the whole semester for signed-in students, quizzes checking the understanding of homework and robust e-learning support are tools that I definitely intend to use extensively even after the schools fully reopen.

[54] Amy Wallace, 'Cyberspace Back to the Classroom: Taking Lessons Learned from Teaching Street Law during the Pandemic Back to In-Person Instruction' (2021) *International Journal of Clinical Legal Education.* 28(2).

[55] See: Jacob Bishop and Matthew A. Verleger, *The flipped classroom: A survey of the research*. (2013) 120th ASEE Annual Conference and Exposition, June 23-26; Gregory. S. Mason, Teodora. R. Shuman and Kathleen. E. Cook, 'Comparing the Effectiveness of an Inverted Classroom to a Traditional Classroom in an Upper-Division Engineering Course' (2013) *IEEE Transactions on Education*, 56(4), 430.