Expanding Learning Scenarios
Opening Out the Educational Landscape
Proceedings of the European Distance and E-Learning Network 2015 Annual Conference
Barcelona, 9-12 June, 2015
ISBN 978-615-5511-04-2
ISSN: 2707-2819
doi: https://doi.org/10.38069/edenconf-2015-ac-0055

FLIPPED LEARNING: THE GATEWAY TO LEARNER AUTONOMY

Amany Atef, Hamdan Bin Mohammed Smart University, United Arab Emirates

Abstract

Over the last two decades, the concepts of learner autonomy and independence have gained momentum. This shift of responsibility from instructors to learners is the result of a concatenation of changes to the curriculum itself towards a more learner-centred kind of learning. Moreover, this reshaping, of instructor and learner roles has been conducive to a radical change in the age-old distribution of power and authority that used to plague the traditional classroom. (Little, 1991, p.4), learners, autonomous, learners that is, are expected to assume greater responsibility for, and take charge of, their own learning. Recent advances in pedagogy and educational technology have pointed to the need to rethink the traditional in-class, lecture-based course model, and unlocked entirely new directions for more models that boost the autonomous learner. Flipped learning is one of those Models, It is a new pedagogical method which utilizes asynchronous video lectures and practice problems as homework, and push all online for learners to learn on their own while class time is dedicated to engaging learners in learner-centred learning activities like problem-based learning, exercises, and inquiry-oriented strategies. In Hamdan Bin Mohammed Smart University (HBMSU), we applied the flipped learning by integrated it with our blended learning model; therefore, we pushed all online lectures to self-paced online videos and used class time to engage learners in active learning exercises. This paper addresses Hamdan Bin Mohammed Smart University' Flipped Learning model, by illustrating the model anatomy and how it boosts the learners' autonomy and encourages a learner-centric environment; intending to serve as a guide to instructors to develop, implement, coach/monitor, and evaluate innovative and practical strategies to transform learners' learning experience. It also provides a comprehensive survey of flipped learning implementation; include: the type of in-class and out-of-class activities, the measures used to evaluate the model including, but not limited to increase learner participation, learner autonomy, engagement and motivation; improve learners' critical thinking/creative problem solving, improve learners' team-based skills and peer-to-peer interaction; make learners the centre of learning / encourage learners' ownership of learning; encourage faculty collaboration, and improve learning outcomes.

Blended Learning Model at HBMSU

Blended Learning Model at HBMSU HBMSU adopted a blended learning approach to combine the online delivery of educational content with the best features of classroom interaction and live instruction to personalize learning, allow thoughtful reflection, and differentiate instruction from learner to learner across a diverse group of learners. HBMSU has a unique blended learning model that integrates three major components: physical classes, synchronous online sessions, and self-paced learning. 20% is physical classes, 47% is synchronous sessions, and approximately 33% of the time is for self-paced learning. All the three components are equally important in enhancing learners' thinking, attitudes, skills, and knowledge.

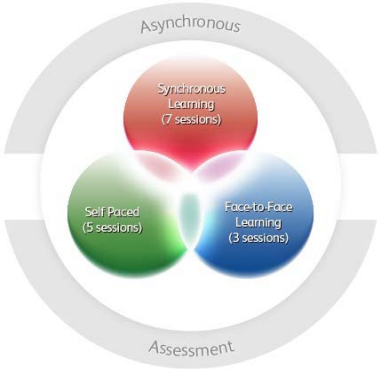

Figure 7. HBMSU Blended Learning Model

Integrating Flipped Learning with the Blended Model at HBMSU

What is Flipped Learning?

Flipped learning is a pedagogical model in which the typical lecture and homework elements of a course are reversed. Short video lectures are viewed by learners at home before the class session, while in-class time is devoted to exercises, projects, or discussions.

Learners gain necessary knowledge before class, instructors guide learners in actively and interactively clarifying and applying that knowledge during class, and class time could be used for expanding upon the content through collaborative learning and mastery concept exercises.

ISBN 978-615-5511-04-2

What's different about flipped learning?

Table 1: The differences about flipped learning

	OLD (Before the Flip)	NEW (After the Flip)
Before Class	Learners assigned something to read	Learners guided through learning module that asks and collects questions.
	Instructor prepares lecture.	Instructor prepares learning opportunities.
Beginning of Class	Learners have limited information about what to expect.	Learners have specific questions in mind to guide their learning
	Instructor makes general assumption about what is helpful.	Instructor can anticipate where learners need the most help.
During Class	Learners try to follow along.	Learners practice performing the skills they are expected to learn.
	Instructor tries to get through all the material.	Instructor guides the process with feedback and mini-lectures.
After Class	Learners attempt the homework, usually with delayed feedback.	Learners continue applying their knowledge skills after clarification and feedback.
	Instructor grades past work.	Instructor posts any additional explanations and resources as necessary and grades higher quality work.
Office Hours	Learners want confirmation about what to study.	Learners are equipped to seek help where they know they need it.
	Instructor often repeats what was in lecture.	Instructor continues guiding learners toward deeper understanding.

The Flipped Learning Implementation Process at HBMSU

Was initiated by the Learning Innovations and Strategies Office as a response to HBMSU's call for an enhanced learner-centred landscape for blended learning. The technologically sound flipped learning approach in education delivery was combined with adept teaching and learning practices against a pedagogical framework to help position HBMSU as the pioneer of this approach, and to assess its effectiveness in the university context. Thus, the following model is proposed.

The Model

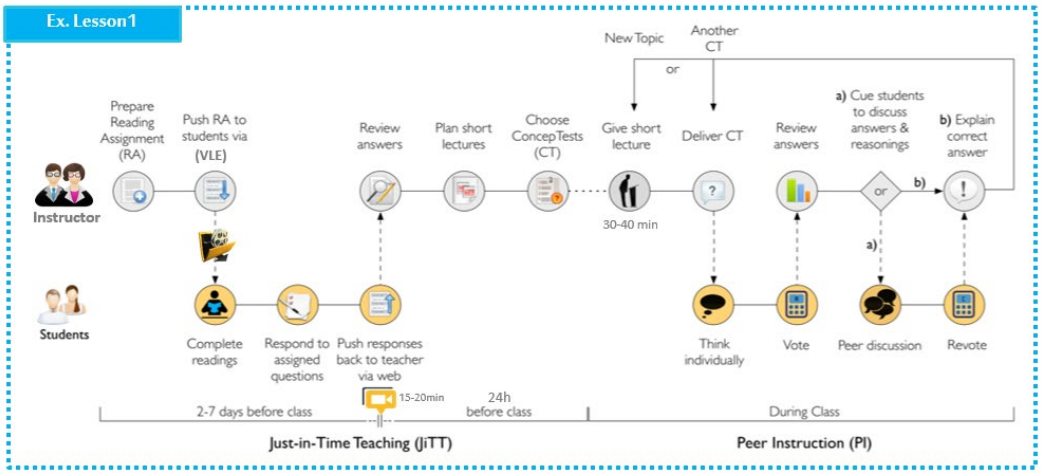

Figure 2. Flipped Learning Model

ISBN 978-615-5511-04-2

The Implementation Steps

1. Defining of content scope, learning objectives, and instructional strategies:
   - What is the scope of your topic?
   - How will learners use or apply the material?
   - How will learners meet the learning objectives?
   - Which instructional approach that will fit best for the main learning activity?
   - How will you contextualize the topic?
2. Learners gain familiarity with new material before class:
   - What instructional materials and resources will you use for learners to familiarize themselves with the content prior to class?
   - Plan and prepare the new instructional materials that learners will engage with prior to class.
   - What is the best way to communicate and present the new instructional material (e.g., video, text, animation, simulation, online multimedia module, or other)?
3. Activities that motivate learners to prepare before class
   - What kinds of activities will motivate learners and prepare them for class? *Refer to the learning objectives and tasks that you outlined in Step 1.*
   - What incentives or motivations will learners have to prepare for class.

Here are some examples of ways to motivate learners to do the pre-class work. Ask learners to:

- Respond to open-ended questions online about the instructional material before class;
- Prepare questions about the instructional materials;
- Prepare a presentation about the topic;
- Attempt to solve some problems;
- Research examples that illustrate a principle and bring these to class.

Here's what you need to ensure in the flipped class.

Table 2: Before-Class Checklist

☐	Learning objectives are SMART
☐	Learning plan includes resources to be used before, during and after class
☐	Adopt strategies that are learner-centric and focus on honing higher order thinking skills
☐	Use learning resources that are diverse, and interactive exploit technology
☐	Logically sequence and contextualize content to support learning
☐	Incorporate audio in PowerPoint presentations to humanize content delivery
☐	Engage learners in coverage activities before they come to class
☐	Record reflections and provide constructive feedback for self-assessment activities

ISBN 978-615-5511-04-2

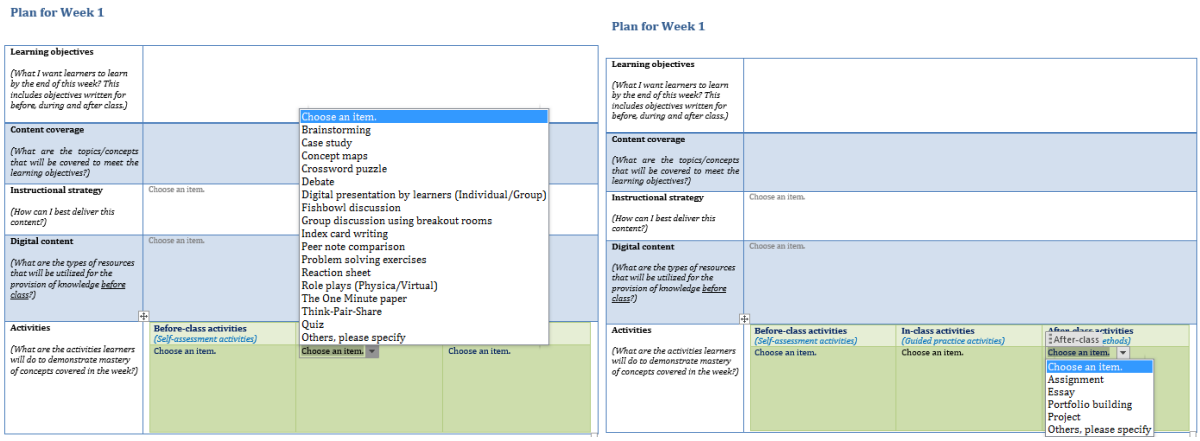

Figure 3. Template of flipped learning weekly plan

4. In-class activities that provide learners opportunities to deepen understanding:
   - What kind of in-class activities will focus learners on attaining higher-level cognitive abilities?
   - Refer to the learning objectives and tasks that you outlined in Step 1.
   - Plan, prepare, and develop in-class activities that focus on higher level cognitive activities.
   - Will learners be working individually in the classroom as you walk around and provide help, or will you solve problems together as a group?
   - Create a brief introduction and explanation of this new process (Flipped). Many learners may not have any previous experience with a flipped learning and/or active learning.
   - Explain how the new instructional material fits into the overall existing course structure.

Table 3: In-class Checklist

☐	Adopt active learning techniques to create rich learning experiences
☐	Monitor and guide team formation, brainstorming sessions, and all other collaborative activities
☐	Focus on closing the gap between current and desired performance in individual and group activities
☐	Prepare learners for the summative assessment

5. Post-Class activities that extend Learner learning:
   - How will learners continue the learning experience from the in-class activity to outside of class?
     Refer to the learning objectives and tasks that you outlined in step 1.
   - Plan, prepare and develop the continuation of the learning experience from the in-class activity to outside-of-class individual or collaborative practice.
   - Determine what learners should do after the in-class activity to continue learning/bridge to next topic.
   - Think about and plan how often learners will need to practice or revise their thinking to really master the material and be successful.

ISBN 978-615-5511-04-2

Table 4: Post- Class Checklist

☐	Establish criteria and standards for all assessments
☐	Grade all assessments
☐	Allow learners to complete evaluation

6. Ongoing evaluation & Assessment (summative & formative assessment)
   - Plan for ongoing formative and summative ways to assess learner understanding and mastery.
     Could learners attain all the learning objectives? What does mastery or success look like?
   - Based on previous iterations of the course/lesson, did your learners' learning improve as a result of the new model?

Evaluation

- Plan for opportunities to evaluate by reflecting on the design of the class or course.
- Did you communicate the ideas effectively? Did you provide enough opportunities for learners to practice? Was it challenging enough? Ask for feedback from learners on what worked well and what didn't – and update your practices accordingly.

Flipped learning is fostering learner autonomy

Unlike the traditional classroom model, flipped learning puts learners in charge of their own learning; by providing lectures online, educators give learners the opportunity to learn at their own pace. Once a learner masters a concept, he can move on. Also, learners who need more time to master a concept won't get left behind. This means all learners are not working in the same area at the same time in and out of the classroom. In the flipped learning environment, the instructor becomes a guide off to the side, acting more as a facilitator, helping and guiding small groups and individuals toward learning success.

Table 5: Instructional strategies to promote autonomous learning

Transfers ownership of learning to the learners	Think-pair-share
Personalizes learning for learners	Inquiry/Discovery learning
Active learning strategies that increase learner engagement in-class time	Learning Stations
Group work	Cooperative learning
Differentiated learning	Guided reciprocal peer questioning
Hands-on activities	Problem-based learning

ISBN 978-615-5511-04-2

Evaluation of the Flipped Learning Model at HBMSU

A survey was conducted to assess the effectiveness of the model in terms of stakeholder satisfaction. The results are as follows:

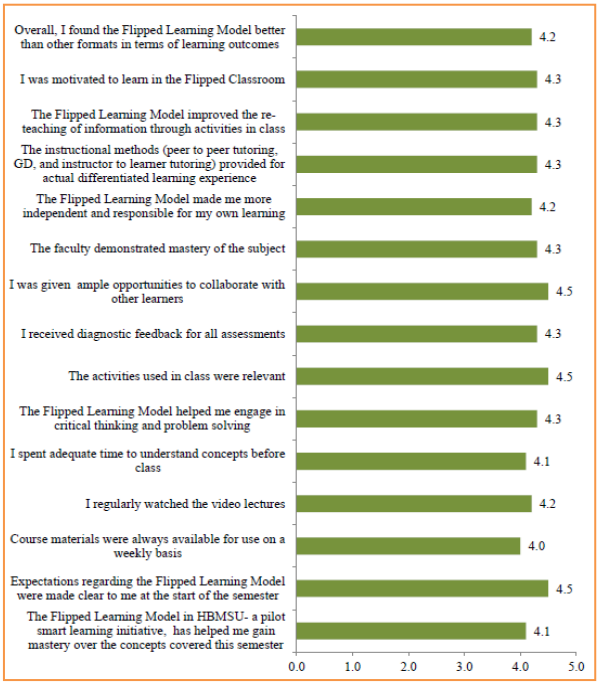

Figure 4. Learners' Satisfaction

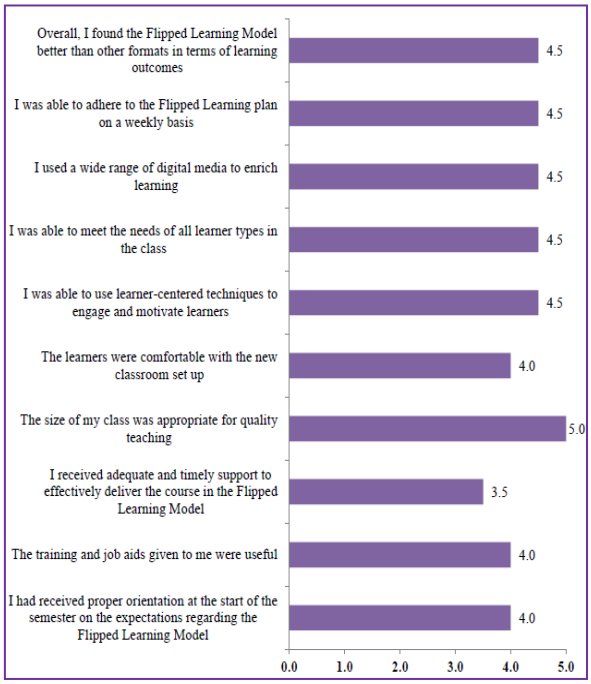

Figure 5. Instructors' Satisfaction

ISBN 978-615-5511-04-2

Main Conclusions from learners' and instructors' responses

- Results of the survey addressed to learners and instructors: the mean values (all > 3.5) indicate positive responses to the statements. Interestingly, there is a comment suggesting that the learners want "more filliped classes and less number of physical classes".
- The model led to critical thinking, promoted autonomous learning, and facilitated active interactions among learners. The respondents agreed that the model took the course from instructor-centred, passive learner model to independent learning, learner-centred, empowering model. See Figure 4, 5.

Conclusion

Conclusion This paper has presented the flipped learning experiment at Hamdan Bin Mohammed Smart University (HBMSU) from the perspective of using effective pedagogical model, to foster learner autonomy and engagement, with particular attention to activities that generate autonomous learner. It presented practical strategies for effective implementation that reinforces the sense that the flipping technique is useful when seeking to optimize class time, support the development of higher-order thinking skills, and enhance instructor-learner and learner peer-to-peer interactions. It showed that this model can help to promote learner autonomy, as it helps learners to be more responsible and take ownership of their learning process. The evaluation of this model showed that the success of a flipped approach hinges on the synergy between instructor and learners and requires sustained motivation and contribution before, during, and after live instruction. When used appropriately, classroom flipping is a valuable addition to higher education practice.

> *"Once you engage the Learners' minds, there's an eagerness to learn, to be right, to master." (Erik Mazur, Harvard Professor)*

References

1. Bergmann, J. and Sams, A. (2012). *Flip your classroom. International Society for Technology in Education.* San Diego, CA.
2. Bergmann, J. and Sams, A. (2014). *The Flip Your Classroom-Making Flipped Learning Work for You.*
3. Cisco Global Schools Executive Exchange. (April 2012). *The Flipped learning: Empowering Students to Take Charge of Their Learning.*
4. Coursera (2012). *Courses for everyone.* https://www.coursera.org
5. Demetry, C. (2010): An innovation merging "classroom flip" and team-based learning. In *Proceedings of 40th ASEE/IEEE Frontiers in Education Conference.*
6. Estes, M.D.; Ingram, R. and Liu, J.C. (2014). *A Review of Flipped learning Research, Practice, and Technologies.* USA.

ISBN 978-615-5511-04-2

7. Five Best Practices for the Flipped Classroom. http://www.edutopia.org/blog/flipped-classroom-best-practices-andrew-miller
8. How to Create Assessments for the Flipped Classroom. http://www.facultyfocus.com
9. The Instructor Guide for Flipped Classroom (2014). http://www.edudemic.com/guides/flipped-classrooms-guide/
10. Johnson, E. and Jenkins, J. (2009). *Formative and Summative Assessment.* http://www.education.com
11. Keengwe, J.; Onchwari, G. and Oigara, J.N. (2013). *Promoting Active Learning through the Flipped Classroom Model.* USA.
12. Nolan. M. (2013). *Successful Strategies for Improving Learner Engagement.* USA.
13. Steps to flipping your Class, New York University. http://www.nyu.edu/
14. Thanasoulas, D. (2000). Learner Autonomy and How Can It Be Fostered. In *The Internet TESL Journal, VI(11),* November 2000.

ISBN 978-615-5511-04-2