

# TEACHING/LEARNING NEW PRODUCT DEVELOPMENT FROM ACTIVE LEARNING CLASSROOM TO ONLINE (PO-05)

Laurie A. Meamber, Associate Professor of Marketing, [lmeamber@gmu.edu](mailto:lmeamber@gmu.edu)  
School of Business, George Mason University



## Active Learning Classrooms (ALC) and New Product Development (NPD)

Active Learning Classrooms (ALC) support collaborative group learning. In recent years, George Mason University has increased signature learning spaces, including ALCs, such as Collaborative Classrooms that promote technology for student groups. In spring 2020, an undergraduate New Product Development course was taught in an ALC Collaborative Classroom (fixed, meaning that the tables did not move) for the first half of the semester and then it moved online due to the COVID-19 pandemic.

Resources in the ALC (Collaborative Fixed Classroom) include fixed tables that seat small groups at locations around the sides of the rooms, fixed and rolling whiteboards, and flat screens at each table that allow the instructor to share visual materials or that can be switched over so that students at each table can connect their own technology for viewing by others.

The NPD course, in line with best practices for teaching design thinking and new product development (Chen, Benedicktus, Kim and Shih (2018); Pun, Yam and Sun 2003) requires active and experiential learning. Two-thirds of the flipped class time involves students working together on team exercises that help them learn and apply new product development concepts, and prepare them to complete a team project of developing a new product idea, creating a non-functional prototype, and planning the launch of the product.



Spring 2020 ALC view 1 from "front" podium/door.  
<https://25live.collegenet.com/pro/gmu#!/home/location/2119/details>



Spring 2020 ALC view 2 from "back".  
<https://25live.collegenet.com/pro/gmu#!/home/location/2119/details>



Spring 2020 Mason NPD students collaborating in an ALC. Photo by Laurie Meamber



Spring 2020 Mason NPD students collaboration result in ALC. Photo by Laurie Meamber



Example: Mason NPD students word cloud collaboration completed and projected on table screen in ALC



Fall 2017 and earlier: Baseline classroom crowded with moveable tables and chairs.  
<https://25live.collegenet.com/pro/gmu#!/home/location/23/details>



Mason NPD students engaging in an exercise in crowded baseline classroom. Photo by Matt Shaner



Spring 2020 ALC view 3 from "front" left of podium.  
<https://25live.collegenet.com/pro/gmu#!/home/location/2119/details>



Spring 2020 Mason NPD students working on an exercise in an ALC. Photo by Laurie Meamber

## ALC Learning Performance and Online Transition

Teaching the NPD course in an ALC has transformed the student learning experience.

The student work has improved since moving to the ALC from a traditional classroom, and from ALC to online during the pandemic. The collaborative process and product of the student teams has improved. The experiential exercises that are not graded but given credit for completion are qualitatively better, and this has resulted in students being able to leverage/utilize these outputs in graded deliverables.

It also appears that the time spent learning together in the ALC carried over positive effects when the course went online mid-semester. Teams experienced less conflict and produced higher quality prototypes as displayed here.

Newer types of classrooms allow for group collaboration and use of technology, can impact learning in other courses across many disciplines. The interactions in these classrooms can also facilitate learning in other formats, such as hybrid delivery courses, or for courses that started face-to-face but move online (such as during the pandemic).



Example: Fall 2017 Physical Prototype



Example: Spring 2020 Visual/Analytical Prototype

## Learning Experience in a Baseline (Traditional) Classroom versus an ALC

Prior to spring 2020, the NPD course had been taught in a "baseline" (traditional) classroom that had either fixed or moveable tables with moveable chairs. These classrooms were an improvement over classrooms that have individual desks or are tiered and thus do not allow for hand-on active learning that either involves small student groups physically creating something or collaborating using technology.

These baseline classrooms were physically dense – either with people, or furniture or both and did not allow for the faculty member to walk around the classroom to assist student teams.

- In the ALC, students are able to work together more effectively. The reasons for this were:
- Ample room in the classroom for students to interact and change positions to facilitate learning and collaboration.
  - Flat screens at each table that students can access to share their individual device screens with each other (and faculty) and view instructions on the experiential learning task.
    - For example, when creating word clouds out of customer information, students are able to share their screens at their individual tables to facilitate discussion about important insights gleaned from the word cloud instead of struggling to share information with each other using the small screens of their laptops/tablets. (see handout)
  - Faculty member can move around the classroom and assist students. When engaging in verbal discussions with the class or providing instructions, the faculty member could move to the center of the room or walk around to the tables and facilitate knowledge sharing.



Spring 2019: Baseline classroom crowded with moveable tables and large chairs.  
<https://25live.collegenet.com/pro/gmu#!/home/location/679/details>



Spring 2019 Mason NPD students executing an exercise in baseline classroom crowded with furniture. Photo by Laurie Meamber

## Acknowledgements

- Dr. Matt Shaner, Ole Miss Business, The University of Mississippi, developer of MKTG 353: New Product Development Course while a faculty member in School of Business, George Mason University.
- MKTG 353 New Product Development course students from Fall 2017, Spring 2019, and Spring 2020.
- School of Business Pedagogy Innovation Program and other faculty members/courses using the Marshmallow Challenge, and other experiential exercises.
- ITL Organizers, and Reviewers for supporting the inclusion of the work in the conference and for their helpful suggestions that stimulated additional thinking about student learning and online learning.

## Selected References

- Chen, S., Benedicktus, R., Kim, Y., & Shih, E. (2018). Teaching design thinking in marketing: Linking product design and marketing strategy in a product development class. *Journal of Marketing Education*, 40(3), 176-187.
- Pun, K. F., Yam, R. C., & Sun, H. (2003). Teaching new product development in universities: an action learning approach. *European journal of engineering education*, 28(3), 339-352.