Fundamentals of Finance Visualized -
Evaluating the creation of a MOOC in Finance

An instructional innovation proposal for Summer 2014,
submitted by

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I have reviewed the proposal, and I support the request for a course release /
cost reimbursement for the project.

Gerald D. Gay, Chair
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Date

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1. Problem Statement

Some time ago I came across Dan Roam’s book “The Back of the Napkin”, and a couple of years later I read its sequel “Blah Blah Blah, what to do when words don’t work”. Both books and their concepts immediately resonated with me. They are about visualization techniques like “… simple drawings … which can be more powerful than the slickest PowerPoint presentation … (quote)”, or the concept of “Vivid Thinking”, a technique which combines verbal and visual aspects to make learning easier and more effective.

During my career as a Finance Professor I have always used visualization techniques in my classes, although not in a systematic way. Nevertheless, undergraduate students, graduate students, and especially executives were regularly impressed when they saw how visualization techniques could make an admittedly difficult subject like Finance easier to understand. Also, in my teaching evaluations students regularly mention that this had a significant impact on their learning success.

However, when I use these visualization techniques in my classes I frequently have the impression that students are at first somewhat overwhelmed by the concepts, sketches, drawings, colors, etc. One reason for this may be that the traditional Finance curriculum focuses a lot on formulas and numbers, and much less on alternative learning techniques, and especially not on visualizations. That’s why over the years I started to think about an online class which would explain the concepts of Finance in a visualized way, so that students with no business/finance background would have an opportunity to get introduced to the fundamentals in a different way, at their own pace, and before the “real classes” start.

Over the last two years I have closely followed the MOOC (massive open online courses) developments in academia. I have come to believe that a MOOC which explains the fundamentals of finance in a visualized way could possibly be a worthwhile opportunity for RCB to not only do a great service to our student population, but also create a footprint in the academic world. As of today, I am not aware of MOOC which addresses fundamental finance topics in such a “non-traditional” way. The courses on Coursera and other sites are mostly regular lectures by Ivy League Professors which are made available to everybody.

2. Problem Objectives

The goals of this project are:

1) To create a curriculum for an online “Fundamentals of Finance” course which uses visualization techniques (like the ones in Dan Roam’s books) in a systematic way. The course would not replace any existing Finance
course, the goal would be to offer students an opportunity to learn about Finance in a non-traditional way before they start to take their regular Finance classes.

2) To research the current state of Finance-related MOOC course. Who offers them, what do they cover, what teaching techniques are used, how are they executed, how does the certification work, etc.

3) To evaluate the creation of such a MOOC within RCB. Could we do this with our resources (digital classrooms, D2L, etc.)? Would we need additional support in order to do it? What kind of support? How costly would it be?

4) To possibly develop a model for such a MOOC within RCB (target population, delivery methods, assessments, certification, etc.)

The MOOC would explicitly NOT replace an existing Finance course. It would serve as an introduction to Finance for anybody with no Business/Finance background in order to be better prepared for the regular Finance class(es) which will follow.

The MOOC would explicitly NOT be geared towards Finance majors only. Especially non-finance majors could benefit from a non-traditional introduction to this often difficult subject as well.

Additional objectives of the project are as follows:
- To create higher levels of student learning in finance classes through the use of concept-visualization
- To improve student motivation and student focus in core Finance classes by introducing the concepts early and in a non-traditional way
- To connect left and right side parts of the brain by using non-quantitative techniques in predominantly quantitative classes
- To provide “visual pedagogical anchors” for students to better retain key finance concepts
- To increase students’ affinity towards finance by demonstrating them how to analyze situations in a visualized way

3. Method
First of all I will systematically continue with what I have unsystematically worked on during the last couple of years, i.e. using visualization techniques in the Finance curriculum. I will develop the relevant content for an online course and create visualization based learning-sequences for selected topics and subtopics.
Furthermore I will do extensive research in order to gather as much information as possible about the current state of Finance-MOOCs. And lastly, I will evaluate the creation of such a MOOC within RCB and the Department of Finance.

The next step will then be to create several recorded online sequences of specific topics and test them with Finance students (Flex MBA and PMBA students).

Based on the results and the feedback the project will be expanded, hopefully to a full MOOC.

4. Evaluation

The project’s assessment will consist of the following items:

- During AY 2014/15 I will create various recorded online sequences for specific Finance topics and test them with Flex MBA and PMBA students.

- Based on feedbacks from the online sequences and the results of the MOOC research I will develop a concept for a “RCB Finance MOOC”

- If the MOOC concept is feasible, then a prototype will be developed and a first run with prospective RCB students will be done.

The teaching innovation will be written up for a possible presentation at the 2014 Financial Education Association Conference, and possibly submitted for publication in the Journal of Financial Education or other outlets, so that other faculty can learn from the innovation/content developed at RCB.

5. Budget

This is a very time consuming project, therefore I request one course release for Summer 2014.

6. References

Roam, Dan: The Back of the Napkin, 2009
Roam, Dan: Blah Blah Blah – What to do when words don’t work, 2011