



**OBTC 2017 at Providence College  
June 14<sup>th</sup> – 17<sup>th</sup>, 2017**

**Submission Template**

**SUBMISSION GUIDANCE**

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## **Submission Template for the 2016 OBTC Teaching Conference for Management Educators**

### **1) Title, Abstract & Keywords**

*In your abstract, please include a brief session description (not to exceed 100 words), and three to four keywords. If your proposal is accepted, this description will be printed in the conference program.*

Title: Teaching Numbers to Non-Financial Students Through Visual Processes

Abstract: This workshop will highlight a process for teaching financial statement analysis using knowledge visualization, visual perceptual learning and alternating tasks. Essentially, students are asked to think of financial statements as a picture and engage in tasks that resemble “word search” puzzles. They must alternate between these simple puzzle tasks and higher learning tasks that then examine what the numbers actually mean. This helps students overcome anxiety or cognitive barriers associated with looking at financials, and they become empowered to discuss the meaning of the financial information. This workshop is suitable for anyone who struggles with understanding or teaching financials.

Keywords: knowledge visualization; teaching finance; financial literacy

### **2) Teaching Implications:**

*What is the contribution of your session to management pedagogy/andragogy? Specifically, please include your learning objectives, and describe what management and/or teaching topics are relevant to your session, and why. Also, include theoretical, disciplinary, or theoretical foundations that will help reviewers understand how your ideas fit within the broader field of management.*

There is increasing expectation of business schools to ensure that students have appropriate skills for the job market. However, research has shown that there are gaps between the needs required in the job market and the skills student acquire through curriculum (David, David, & David, 2011). A major challenge for business schools is ensuring adequate financial literacy among their graduates. Financial literacy involves having functional knowledge in “investment management, retirement planning, general money management, and credit management,” which some have claimed to be substantively lacking in business school curriculum (Bianco & Bosco, 2011). This requires at least a basic understanding of financial statements.

A New York Times article in 2011 stated that students lack financial skills and cited an example of Champlain College requiring all undergraduates to attend two financial literacy sessions (Lieber, 2011). However, the effectiveness of this approach is

dependent on how such sessions—or indeed, any course-based curriculum—are designed and delivered. This is especially important when teaching financial information to students in non-financial majors (“non-financial students”) who may have self-selected to learn disciplines such as Human Resources and Management, which are generally not numbers-driven. To address this issue, we have designed a workshop that uniquely integrates principles from three relevant literatures (knowledge visualization, visual perceptual learning and alternative tasks for learning) to assist in teaching financial statement analysis, with particular benefit for non-financial students.

Research on *knowledge visualization* has shown that innovation and creativity in team processes can be improved through the use of templates and sketches (Eppler, Hoffman, & Bresciani, 2011; Suthers, 2001). Among other benefits, knowledge visualization enhances the ability to assess information, facilitate knowledge transfer, and share insights among individuals (Eppler & Burkhard, 2007). In our experience, students often state they feel overwhelmed when looking at financial information. Leveraging principles of knowledge visualization can therefore help learners overcome this barrier by encouraging them to see financial statements as a picture or puzzle. Following this logic, our workshop asks participants to look at financial statements in the same way they would look at a picture or other visual depiction of information. For instance, part of the workshop asks students to circle certain numbers in a game-like format similar to a word search puzzle.

Although this approach may appear on the surface to be unrelated to financial analysis, using a visual exercise in this way draws upon a phenomenon called *task irrelevant visual perceptual learning* (Watanabe, 2001; Watanabe & Sasaki, 2015). That is, the type of task used for visual perceptual learning need not be relevant to performing the actual subject or skill, but instead should simply increase *exposure* to the subject matter or the ultimate task—almost like an “inoculation” effect. Thus, the workshop then takes students through a process of alternating between exercises that help them identify where numbers are located visually and spatially, and exercises that help them understand what the actual number mean.

This workshop has been used in multiple sections of a senior undergraduate strategy class, as well as an MBA strategy class, to teach financial statement analysis to a mix of students with both financial and non-financial backgrounds. The results have been very positive for both sets of students. The non-financial students feel they have a means to access information that might have previously seemed overwhelming, unfamiliar, or inaccessible. They also report being able to more confidently dialogue with the financial students by the end of the workshop. The financial students focus on the second task of “what the numbers mean,” and tend to report that they do not feel that the class is being watered down in content to meet the needs of the non-financial students. Overall, both financial and non-financial students who have gone through this process have demonstrated and reported a higher level understanding of financials overall.

### **3) Session Description and Plan:**

*What will you actually do in this session? If appropriate, please include a timeline estimating the activities will you facilitate: how long will they take, and how will participants be involved? Please remember that reviewers will be evaluating how well the time request matches the activities you'd like to do, and the extent you can reasonably accomplish the session's goals. Reviewers will also be looking for how you are engaging the participants in the session.*

This session will offer attendees the opportunity to become participants in the actual workshop, so that they can experience the principles firsthand and understand it as both learner and teacher. Participants will receive a brief introduction on the basic principles of knowledge visualization and alternating tasks. Participants will then be given the same lecture and materials that students are presented with. This will include financial statements and audited reports for a publicly traded company. We will focus specifically on components of ratio analysis to work within the timeframe. (In our normal teaching context, this workshop includes a robust coverage of financial statements and ratios.)

At each stage in the process, we will stop and explain the logic of the process we are following, and answer any questions participants might have. The learning steps will also be explained. At the end of the session, participants will be asked to report back on their experience followed by a general debriefing discussion. Participants will leave the session with sample materials, as well as hopefully new and innovative ideas on how to teach any variety of topics involving financial statements or similar resources.

In terms of timing, the session will ideally be 1.5 hours long (although it could be somewhat modified if necessary, given time constraints). The full session would include:

- 10 minutes to explain the principles
- 1 hour to go through the exercise
- 20 minutes for feedback and discussion

### **4) Application to Conference theme:**

How does your session fit with the overall OBTC theme of *Navigating the Changing Currents*?

The focus of this workshop (unique knowledge visualization and alternative task techniques for teaching financials to both financial and non-financial students) aligns directly with the OBTC theme that includes “developing effective classroom experiences for our students in the changing academic environment.” Secondly, in sharing a unique approach to teaching financial knowledge, the workshop aligns with the area OBTC describes as “demonstrating effective tools to be utilized in navigating higher education.” Overall, this workshop is directly aligned with the theme of *Navigating the Changing Currents* in that it taps into the demand for students to have a better financial acumen coming out of their business school education, regardless of the particular major/discipline they studied.

## 5) Unique Contribution to OBTC:

*Have you presented the work in this proposal before? If so, how will it be different? Is this proposal under current review somewhere else? If so, please explain. How will your proposal be different for the OBTC conference?*

We have not presented this before and it is not under review anywhere else.

## References

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