

2017

# POLO: A Framework for Short-term Studies Abroad to Enhance Critical Thinking Amongst Management Students

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## Recommended Citation

Bonazzi, Riccardo; Poli, Micahël; and Sarrasin, Natalie, "POLO: A Framework for Short-term Studies Abroad to Enhance Critical Thinking Amongst Management Students" (2017). *BLED 2017 Proceedings*. 47.

<http://aisel.aisnet.org/bled2017/47>

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## **POLO: A Framework for Short-term Studies Abroad to Enhance Critical Thinking Amongst Management Students**

RICCARDO BONAZZI, MICAHĚL POLI & NATALIE SARRASIN

**Abstract** This article presents the preliminary results of an ongoing study to reduce the cost of short-term studies abroad, which are aimed at increasing critical thinking of management students. We propose to combine the notions of apprenticeship, massive open online courses, pedagogy portal and paper template for reflective practice over the cultural adjustment abroad. The resulting framework allows performing four tasks described by the acronym POLO: Pre-departure sessions to prepare students, Observation activities during the trip to enhance their critical thinking, Learning activities done by virtual teams across two universities and Ontological changes to adapt to a new cultural environment. As an instantiation of our model, we briefly describe a course of digital marketing that has been implemented in the last three years, and we share some relevant insights which complement the existing body of knowledge.

**Keywords:** • framework • short-term studies • management students • studies abroad • POLO •

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<https://doi.org/10.18690/978-961-286-043-1.4>

ISBN 978-961-286-043-1

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Available at: <http://press.um.si>.

## 1 Introduction

Some 720 years ago, a book appeared in Europe, marvelling the travel in Asia that Marco Polo started when he was seventeen and that ended when he came back to Venice 24 years later. Although the book contains omissions and exaggerations, it describes how a merchant perceived the wealth and great size of Asian cities and it soon gained popularity in Europe, while inspiring other travellers to travel even further, one of which was Christopher Columbus.

The purpose of this article is to describe an ongoing project for teaching professors to design a training program meant to transform any management students, the same way a long journey to Asia transformed a simple merchant into Marco Polo.

We define a study exchange program as a program in which students from a university study abroad at one of their institution's partner institutions. Since such programs might be hard to organize from an administrative point of view, this article focuses on short-term study abroad, which lasts less than three months and exposes students to an intensive program that increases their understanding of other cultures, communities, and languages. Short-term, non-language-based study abroad programs can have a positive impact on intercultural sensitivity (Anderson, Lawton, Rexeisen, & Hubbard, 2006). Moreover, previous studies have already shown no statistically significant differences between the semester-long group and the short-term group (Kehl & Morris, 2008).

A recent stream of literature has studied how short-term study abroad enhance critical thinking among students (Cai & Sankaran, 2015), which is defined here as the application of focused reflection and reasoned thought, and how to prepare the pre-departure sessions to properly prepare the students (Mantha, 2016). Although the positive effects of a short-term study abroad have been discussed in previous studies, a major barrier for teaching professors is the cost to implement it. In this study, we wish to find a way to lower three components of such cost: (a) the effort required to obtain the economic resources needed to do the trip, (b) the effort required to prepare the students and (c) the effort required to assess the acquisition of relevant competences.

In this paper we seek for a set of guidelines that reduce the effort required to organize a short-term study abroad for a university course. Such goal seems to be best addressed by a design science methodology, which seeks for utility rather than truth (Hevner, March, Park, & Ram, 2004) and will be instrumental to develop a framework of guidelines for teaching professors. Therefore, our research question is: how to reduce the cost of a short-term study abroad aimed at increasing the critical thinking of management students?

The rest of the paper proceeds as it follows. Section 2 briefly assesses the state of the art with respect to relevant concepts needed to answer our research question. Section 3 describes our methodology and the proposed solution. Section 4 illustrates the

preliminary results obtained. Section 5 concludes the paper by discussing its limitations and by highlighting possible directions for further investigation.

## 2 Literature review

In this section we introduce three concepts to address our research question: (a) apprenticeship as a way to gather resources for the trip, (b) massive online open course to standardize the content used to prepare the students, (c) information technology to collect information during the trip.

(Chieffo & Griffiths, 2003)) point out that the majority of study abroad programs are now short-term and faculty-led, but it does not specifically address the issue of effort required for financing. In this paper, we suggest establishing partnerships with firms and have students do apprenticeship in the firms during the course, in exchange of financial supports for the short term study abroad. This approach is inspired by the Finnish model of education to teach entrepreneurship, the so-called “Team Academy” approach (Leinonen, Partanen, Palviainen, & Gates, 2004) that has already influenced the way management courses are taught (Tosey, Dhaliwal, & Hassinen, 2015). Apprenticeship can be defined as a system of training a new generation of practitioners of a profession with on-the-job training and some accompanying study (classroom work and reading). With respect to internship, apprenticeship is more structured and it requires a close collaboration between the firm and teaching professors.

If one assumes that management students are apprentices, who do a project during a semester that includes a short-term study abroad, the pre-departure sessions meant to enable students to perform critical thinking during the period abroad needs to be consequently adapted. Indeed, existing literature has already offered a set of guidelines to increase the critical thinking of students by means of three sessions that address three relevant questions: (a) Session 1: Choosing My Adventures (b) Session 2: What’s My Attitude? and (c) Session 3: Building My Skills. Nonetheless, the useful material offered by the authors need to be complemented with other resources that help students solving the problem of the firm. In this sense, one way to train students is to use a massive open online course (hereinafter referred as MOOC), which can be defined as an online course aimed at unlimited participation and open access via the web (Breslow et al., 2013). Online companies, such as Coursera or edX, offer courses from top universities that include videos and tests to assess knowledge acquisition. Although the real value of MOOCs is currently debated (Shea, 2015), xMOOC are a useful approach to assure that the training of students is in line with what is currently taught in other universities, where “x” stands for “extended” meaning that the MOOC complements a course done in class.

Finally, it should be taken into account that, during a short-term study abroad, students do not have constant access to a personal computer or to internet access. Therefore, it would be advisable to combine (a) online tools that allows students from different classes to work together and (b) paper templates to carry on and to fill in during the trip to assist

the students in their reflective practice. An example of the former is the project “Portal Pedagogy” (Monk, McDonald, Pasfield-Neofitou, & Lindgren, 2015) that connects geographically distant students through technology and curriculum to create a student-centred community of inquiry neither bound by disciplines nor countries. An example of the latter are checklists to assess the different phases of the U-curve adjustment theory (Lysgaard, 1955), which describes how students pass through four stages of adjustment: honeymoon stage, culture shock stage, adjustment stage and mastery stage.

### **3 Methodology and theoretical model**

In this section we briefly illustrate (a) how we followed the guidelines of design research and (b) the four components of our framework.

#### **3.1 Design research**

Since we did not find a theory to design a short-term study abroad with limited resources, we apply design science, which addresses so-called wicked problems, defined as difficult or impossible to solve because of incomplete, contradictory, and changing requirements that are often difficult to recognize (Rittel & Webber, 1973). We follow the six steps of (Peffer, Tuunanen, Rothenberger, & Chatterjee, 2007) to perform design research.

1. Identify problem and motivate: the overall need of international experience was brought by companies, who hire our students after the completion of their university training. The specific need of reducing the effort required to include this activity in the course was due to the limited resources available at the university.
2. Define objectives of the solution: we looked for an existing solution to adapt our course of digital marketing. Once we found the model of (Cai & Sankaran, 2015), we tried to extend it in order to allow quantitative analyses and benchmarks among groups of students.
3. Design and development: we developed the course iteratively over three years. Each year, we improved one of the three cost components. The first year we introduced the notion of apprenticeship to lower the cost of financing. The second year we complemented our courses with MOOCs and we started measuring skills acquisition with external surveys. The third year we developed a travel guide with templates to fill after each visit.
4. Demonstration: each year, we tested the model by travelling with selected students of the course of digital marketing to the same location, in order to allow comparison between different years.
5. Evaluation: we assessed the effort required to organize the short-term study abroad, while measuring the satisfaction of students and companies.
6. Communication: We waited until the third iteration to communicate the results of our model, due to the complexity of the task at hand.

### 3.2 Our framework

The resulting model has four components that form the acronym POLO, two of which have been fully implemented for a course of digital marketing, and two of which will be implemented in the next iteration.

- a) Pre-departure sessions: We identified three main themes associated to the experience that students would have done abroad, and that could be improved by digital marketing techniques: tourism, education and strategy consulting for firms. According to (Cai & Sankaran, 2015), there are three components of the theme-based interdisciplinary approach, which we adapted to our situation: (a) Great questions: in order to perform each experience, students had to combine existing notions of information technology, strategy, market analysis and service design. (b) Glocal awareness: during each experience, students had to report how they felt about being immerse in a foreign country and what changed with respect to the local context they were used to. (c) Global awareness: after each experience, students were asked to propose ways to translate the skills learnt in a global context into the ecosystem of the firm, they were working with. Moreover, we had to take into account the interaction between the students and the firm that financed their trip. Since we did not want to personally attend the meetings between the students and the firm, we decided to use a set of proxy measures. We used two MOOCs from Coursera and training material from Google and Facebook to prepare students to the topic of digital marketing. Students were asked to complete the course at home and to come to class prepared to discuss about how to implement the theory into their group project with the firm. Every month, the students had to complete a set of quiz to monitor their mastery of theoretical concepts. In order to measure retention of concepts, we submitted the same quiz more than once. Hence, the first month, students would have to do quiz 1; the second month, they would have to do quiz 1 and quiz 2; the third month, they would have to do quiz 1, quiz 2 and quiz 3, and so on. Only the first quiz led to a summative evaluation; the result of the other quizzes was known by the students but did not change the initial score. That way, we would monitor how many theoretical concepts were put into practice within each group, and to perform risk analysis at the group level. One month before the trip, the firm had to do an intermediary evaluation, and we checked if there were correlations between our risk analyses and the feedback of the firms.
- b) Observation while being abroad: According to (Cai & Sankaran, 2015), there are three components of the cultural immersion (site visits, activities and assignments):
  - a. Experience: whenever possible, students were advised to observe how locals were behaving with respect to each theme previously defined.

- b. Reflection: at the end of each day, students were brought to traditional monuments and restaurants to familiarize with the underlying culture of the city.
- c. Application: students had the opportunity to follow university courses and presentations done by international firms on the same topic.

In order to assess the increase in the critical thinking of the students, a set of templates to fill were given. The templates to fill in had the same structure for every theme: (1) analysis of the touchpoints between the student and the service, (b) link between the touchpoints and the concepts of digital marketing learnt in class, (c) observation of existing digital solutions used in the context and difference between theory and practice (d) suggestions for improvement and explications of implementation.

- c) Learning with another class: This component of the framework is currently under development and it has not been tested yet. In its final stage of development, we envisage to create virtual teams composed by students from two universities in two different countries, which will have to perform a joint task, i.e. to attend the Google Online Marketing Challenge. A groupware with project management functionalities, such as LiquidPlanner, will allow students from the two universities to talk before meeting during the short-term study abroad. Then, students will continue working together from two separate countries.
- d) Ontological changes: This component of the framework is currently under development and it has not been tested yet. Previous research has already shown that the different stages of the U-curve adjustment theory can be shortened by (a) performing pre-departure exposure to the host culture, (b) teaching techniques of anticipatory adjustments to the host culture and (c) increasing the time spent with host country nationals (Black & Mendenhall, 1991). Accordingly, teaching professors could link the quantitative results obtained during the pre-departure sessions and the data collected during the trip, in order to monitor if the honeymoon and the culture shock stages last too long, and act accordingly. For sake of simplicity, we list here only two propositions derived from the U-curve adjustment theory: (P1) students who spent little time to attend to models, will report the lowest levels of perceived dissimilarity between the approach of the host country nationals and themselves at the beginning of the trip, and (P2) students that have written more of new and appropriate behavior at the beginning of the trip will receive a greater positive reinforcement and will adjust quicker to the new culture.

#### 4 Preliminary test results

In this section we illustrate the results of the most recent test the first two components of our model, which was used with a class of 35 students of the course of digital marketing. At the beginning of the academic year, students were split into eight groups depending

on their interests and skills. The goal of each group project with the firm was the same: to design and implement a digital strategy for the firm. Nonetheless, each group project slightly changed over time, depending on the stage of digital maturity of the firm or the resources available. Each group received theoretical classes once a week and had to meet the company once a month, as part of their apprenticeship. In the middle of the academic year, a short-term study abroad was meant to let students acquire international awareness, by meeting multinational firms and by attending classes in another university. Accordingly, the city of Dublin was chosen, since it hosts the headquarters for the Europe – Middle East – Africa (EMEA) zone of Facebook (marketing), LinkedIn and Twitter, as well as hosting the headquarters of Google Ireland, Microsoft Ireland and Amazon Ireland.

In the following paragraphs, we illustrate how we monitored the interactions (a) between the students and the firm during the pre-departure sessions and (b) between the students and their new environment during the observation phase abroad.

#### 4.1 Assessment of knowledge acquisition

Since we did not want to personally attend the meetings between the students and the firm, we decided to use a set of proxy measures. Figure 1 illustrates how we monitored the firms. Each student did the quiz 01 three times over the course of one semester. The quiz was composed of 40 questions directly taken from Coursera, and its score ranged from 0/10 to 10/10. After each quiz, we gathered all results of all students and then we extracted the median, the maximum and the minimum for each group. Finally, we assigned the groups to different risk clusters, depending on their maximum and minimum.

Table 1: Classification criteria to classify groups into risk clusters

Team Leader(s)	Sluggoer(s)	Cluster
0 (Max<7/10)	0 (Min<5/10)	Panic
0	1 (Min<7/10)	Confusion
0	2 (Min>7/10)	Theory and no practice
1 (Max<9/10)	0	Tired leader
1	1	Need support
1	2	Committed but leaderless
2 (Max>9/10)	0	Free riders
2	1	Some free riders
2	2	Good leadership

Table 1 shows the classification that we used to monitor the groups. If the maximum score was less than 7/10 we assumed that no one was in charge of the team and we assigned a 0 in the first column. If there was a minimum score below 5/10 we assumed that there



was at least one slugger and we assigned a 0 in the second column. Usually, teams started all at the best position during quiz 1 (=Good Leadership), where most of the students had 10/10. Nonetheless, over time students started forgetting what was not put into practice.

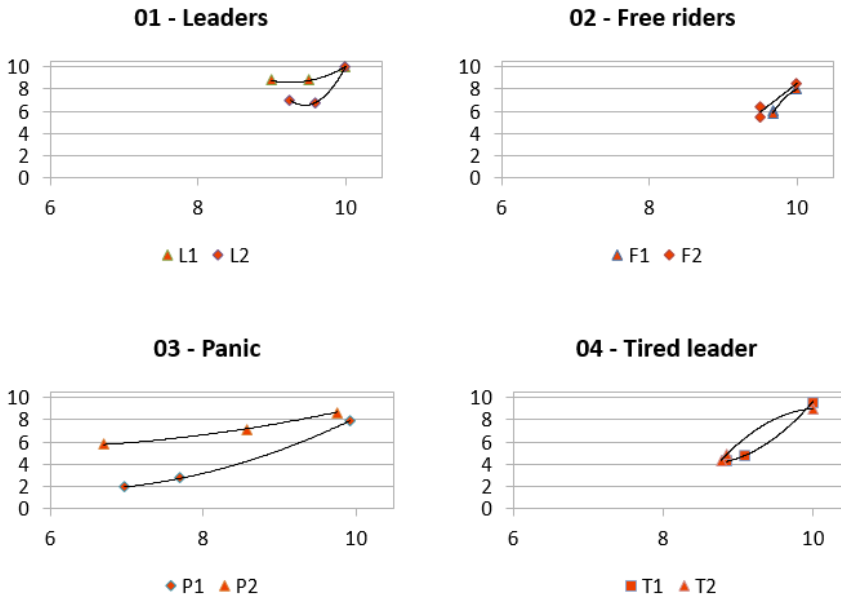


Figure 1: Different trajectories of the eight groups

Figure 1 shows that teams L1 and L2 managed to reduce the distance between the maximum score and the minimum score of the third quiz. Hence, one can assume that they managed to involve the potential sluggers in the team. Instead, teams F1 and F2 did not correct the distance between max and min but they managed to keep such distance steady between the quiz 2 and the quiz 3. Team P1 and P2 could not control the amount of free riding in the team and eventually no one took the leadership. Interestingly enough, these two teams did not have problems with the firm. Indeed, by discussing with the firms we realized that the company took the role of the leader and the students decided to follow. Finally, teams T1 and T2 increased the amount of free riding in the team over time and lost the degree of leadership. These teams had issues in their mid-term evaluation, because the two firms did not take the lead.

#### 4.2 Preparation of the theme-based interdisciplinary approach and cultural immersion

Table 2 illustrates an example of development of the theme “Strategy consulting”. Students received a printed book with templates to complete, such as the one shown in the example. On day 1, students went to an Irish university and conducted a case study, under the supervision of a teaching professor in charge of the course of digital marketing

at the hosting university. On day 2, students went to visit the company analysed and were asked to perform reflective tasks to better understand the difference between theory and practice.

Table 2: Theme development across day 1 (case study) and day 2 (visit at the firm)

**Case Study Guinness**

**Dates :** Day 01 (15 :00 – 16:00)

**Part 1: Digital strategy of Guinness**  
 Analyze the amount of times the word “Guinness” is searched on Google Ireland, with respect to the word “beer” and “World record”.  
<https://trends.google.com/trends/explore?geo=IE&q=guinness.guinness%20beer.beer,%2Fm%2F0pmx5>

**Part 2: Marketing strategy of Guinness Storehouse**  
 Read the HBR article “The Brand Benefits of Places Like the Guinness Storehouse” (<https://hbr.org/2015/10/the-brand-benefits-of-places-like-the-guinness-storehouse> ). Then, link the keywords used by the reviews on Tripadvisor to the seven principles.

**Part 3: Your Google Ads to promote the website of Guinness storehouse**  
 Design a Google Ad to increase by 1000 the number of tickets sold online to tourists in the month of April. To estimate the budget, assume that the rate of ticket sold is 1% of the people clicking on the ad. To comply with regulations on alcohol advertising, make sure you do not sell alcohol to teenagers. Finally, assume that every ticket sold online saves 3 CHF to Guinness with respect to a ticket sold on the building.

**Part 1.1 : Digital strategy of Guinness**

*Why is the word «Guinness » searched more than the word « beer » ? (Hint: look at the related queries)*

.....

....

Think about an example of how social marketing online allows Guinness to promote its brand, while respecting regulations on advertising of alcoholic beverages

.....

....

**Part 1.2 : Marketing @ Guinness Storehouse**

Read reviews that mention:

Search reviews  

- All reviews
- gravity bar
- free pint
- top floor
- pour your own
- self guided tour
- brewing process
- perfect pint
- black stuff
- learn how
- brewery tour
- degree view of dublin
- connoisseur experience
- tasting room
- learning how
- own pace
- gift shop
- visiting dublin
- interesting tour
- certificate
- advertising

	Principle	Keywords	Comments
1			
2			
3			
4			
5			
6			
7			

### Part 1.3 : Google Ads

**Goal : 1000 tickets sold on the website of Guinness storehouse**

(<https://www.guinness-storehouse.com/en/tickets> )

**Time** : From March, the 1st to March, the 31st

**Target 01**: Adults 18-40, living in your country

**Target 02**: Teenager 12-18, living in your country

You can use the most frequent words used in the reviews of TripAdvisor to define your keywords. Keywords:

- 1 .....
- 2 .....
- 3 .....

Once you have defined your keywords, estimates the cost per click. Let assume here that the cost is 0.03 CHF. Indicate below your estimate of the daily budget and the return on investment.

Daily Budget:

.....  
.....

ROI = (gain from investment – cost of investment) / cost of investment

.....  
.....

### Guinness Storehouse

**Dates** Day 2 (9 :30 – 11 :30)

#### Planning

- **09 :15 – 09 :30** : Meeting at the entrance
- **09 :45 – 10 :45** : Exercise
- **11 :15 – 11 :30** : Debriefing and beer at 7th floor

Once the trip was concluded, we collected all printed book to assess their contents. As it turned out, the classification done at the pre-departure sessions, which was shown in Table 1, allowed to partially predicting the trajectory of the groups. In order to assign groups to cluster, we checked if the templates in their printed book were completed (=2) or partially completed (=1), and if the answers of the participants were similar (=0) or somehow different (=1). Table 3 shows that most groups did not change their internal

dynamics, with the exception of the groups with the free riders, where the leader became tired (groups F1 and F2), and one group in “Panic” state, which managed to rebound during the trip abroad. This confirms our first proposition (P1) concerning the importance of the pre-departure stage. Since one group has improved its relative performance during the trip, we need additional information to confirm our proposition concerning the importance of positive reinforcement to teams, which properly prepared before the trip and acquired new and appropriate behaviors in little time.

Table 3: Score before and after the short-term study abroad

Group	Leader	Sluggler	Cluster Before	Completed	Similarity	Cluster After
F1	2	0	Free riders	1	0	<i>Tired leader</i>
F2	2	0	Free riders	1	0	<i>Tired leader</i>
P1	0	0	Panic	0	0	Panic
P2	0	0	Panic	2	1	<i>Some free riders</i>
T1	1	0	Tired leader	1	0	Tired leader
T2	1	0	Tired leader	1	0	Tired leader
L1	2	2	Leader	2	2	Leader
L2	2	1	Some free riders			

## 5 Discussions and conclusions

This article presents the preliminary results of an ongoing study to reduce the cost of a short-term study abroad aimed at increasing the critical thinking of management students and to transform each of them into the Marco Polo of the 21st century. We start by proposing to start by a project that implies apprenticeship in firms and that uses the time spent abroad in order to solve a problem of a company, which could cover the travel expenses in return. Accordingly, we have adapted existing templates for pre-departure sessions of (Mantha, 2016) to include the notions required to solve the problem of the firm, and we have devised a way to use MOOCs and standardized tests to monitor the work of the students. Finally, we have extended the framework of (Cai & Sankaran, 2015) to have the summative and formative evaluation under a quantitative form, to allow benchmarks among students.

At its current stage, this study has two major limitations: (1) the first one concerns the two missing dimensions of the POLO framework, which makes it hard to assess its validity as an overall; (2) the second shortcoming concerns the way reflective exercises are constrained by the templates to allow simple benchmarking. Nonetheless, we believe that our preliminary results already offers two interesting contributions to previous knowledge: (a) if students work in teams, the team dimensions should be taken into account and (b) if students work with a sponsor, the dynamic with the firm should be monitored to avoid the situation “tired leader”.

In the future, we intend to develop the two last components of our framework and to test it quantitatively on a larger scale. In the beginning, we shall limit our observation to two classes in two countries, in order to better control for cultural effects. Indeed, we intend to assess an additional proposition derived from Black & Mendenhall (1991), concerning the sources of anticipatory adjustment, such as training or previous international experience, that increase attention and retention processes will in turn speed up the learning process of some students.

In order to properly assess the ontological change, we also intend to try a version of the printed book with templates for students, which constrain less their possibility to express themselves.

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