



## THE TURKISH PROJECT: A COLLABORATIVE LEARNING MODEL FOR MARITIME INSTITUTIONS

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### ABSTRACT

The article analyzes a unique collaborative learning model that was recently introduced in a semester-long course at Maine Maritime Academy. The participants collaborated with their peers from a Turkish maritime university, using the internet as the communication medium to accomplish their project goal. Student expectations and concerns regarding the project and the pedagogy were gathered using pre- and post-project surveys. Data analysis shows that while the project was not perfect and requires significant faculty commitment, there are tangible benefits from pursuing such a learning model. The researcher recommends applying similar models in traditional maritime academic fields.

### 1. INTRODUCTION

The human race is blessed with many unique characteristics that include the presence of an inquisitive mind, and the desire and willingness to learn. If given the option, human beings develop their own ways and means of learning a body of knowledge. While some individuals learn best in a tranquil environment, there are some that do not learn

The existing models of collaboration between maritime institutions are limited to inter-institutional agreements that typically

in the absence of a stereo system playing their favorite music. Davis [1] and others have documented the usefulness and effectiveness of various learning models. Collaborative learning model is one such pedagogy that has been applied and studied extensively in traditional educational discipline [1]. However, there has been no documented work that details the effectiveness or usefulness of such a learning model in maritime education. It is unclear as to why this is the case as there has always been a strong correlation between the success of a maritime venture and the effectiveness of the collaboration between various stake-holders involved in that venture. Despite all the advances in our understanding of the learning process, and the various coordinate-d efforts toward educating an era of "zero-defect" seafarers that constantly seek continuous improvement, it is ironic that there is very little emphasis toward collaborative learning that involves direct inter-university student-to-student contact in the maritime discipline. The only instances that incorporate any level of collaborative maritime academic learning is typically during bridge team exercises or those that prepare seafarers for emergency situations such as life-boat and fire drill or other emergency situations.

facilitate faculty, and in some rare cases, student exchanges. There has been virtually no documented effort to promote collaboration

between students of maritime universities on a real-time basis. The paper will discuss an ongoing effort between two maritime universities to facilitate collaborative learning without leaving their respective campus and by taking full advantage of the worldwide web and the internet. The model and its outcomes should be of particular interest to the International Association of Maritime Universities (IAMU) given its mission as well as the ongoing globalization of business activities in general.

The paper will provide a brief description of ongoing globalization of goods and services and use that as a background to establish the case of global seafarers, an IAMU mission. It will then examine relevant collaborative learning paradigms. This will be followed by a description of the MMA-DEU collaborative learning model and its outcomes. The data gathered from the study will be analyzed and conclusions made to fine-tune and enhance the effectiveness of similar projects in future years. The author will also recommend some possible collaborative learning topics with a more direct maritime connotation.

## **2. THE GLOBALIZATION OF MARITIME EDUCATION**

The formation of the International Association of Maritime Universities is an ambitious yet essential attempt in light of the broader ongoing changes in global business environment. The world is becoming increasingly smaller from a physical as well as a literal sense. Hill observes that the business strategies of international businesses have progressed gradually from the basic international strategy of the post WW-II years to those of multi-domestic, global and transnational strategies during the last few decades [2]. Businesses seek sustainable competitive advantage in the marketplace taking into account the various cost pressures and product differentiation pressures unique to their product and market. The maritime industry has kept up with ongoing broader

strategic changes by adapting its business practices. There have been numerous mergers and acquisitions in the various shipping markets that parallel the global trend toward horizontal and vertical integration that is often reported in business periodicals. The liner sector has witnessed the evolution of global players such as the Maersk-SeaLand, the APL-NOL and the P&O-Nedlloyd mergers [3]. There have been similar trends that involve independent ship-owners in the dry and liquid-bulk markets as well as involving independent ship owners and other third party service providers in the industry such as ship management companies [4]. The dramatic growth of ships registered in nations that do not have a genuine link with the beneficial owner is an excellent illustration of the contemporary ship-owners adapting their operational strategy to establish "least cost" business systems [5].

The market for seafarers has also undergone dramatic changes in the past few decades. Recent studies have documented the ongoing decline of seafarers from the well-developed, traditional maritime nations [6]. The economic and social benefits of pursuing a seafaring career are readily observable in major supplier nations such as the Philippines and India. The role of non-traditional seafarer supply sources will continue to increase because of the worsening supply shortage of navigating officers and marine engineers. As a result, the industry's dependence on the global seafarer will enhance in future years.

The formation of the International Association of Maritime Universities provides a unique but essential opportunity to facilitate a global learning process in maritime education. The concept of global learning is well understood in business lexicon as it helps the migration of the best practices from all source regions. The IAMU Working Group I aims to improve the methods and contents of maritime education training at member universities in light of the globalization of the

world maritime labor force. IAMU Working Group III has the express goal of promoting global maritime excellence. Hence, it is imperative that the IAMU and its working groups examine and analyze various learning models that would enhance student learning and lead to a regular and dependable supply of globally competent workforce in future years. One such learning model that has been studied extensively but used very little presently in maritime universities is the collaborative learning model.

### **3. THE COLLABORATIVE LEARNING PEDAGOGY**

Collaborative learning is a pedagogical mechanism. It is known under different names such as cooperative learning, collective learning, learning communities, peer teaching, peer learning, reciprocal learning, team learning, study circles, study groups, and work groups [1]. Beckman [7], Chickering and Gamson [8], Collier [9], Cooper and Associates [10], Goodsell, Maher, Tinto and Associates [11], Johnson and Johnson [12], Johnson, Johnson and Smith [13], and Whitman [14] have researched the effectiveness of students working in small groups. Johnson, Johnson and Smith [13] suggest three broad categories of such learning and they include informal learning groups, formal learning groups and study teams. While the informal learning groups are typically of an *ad hoc* nature, the other two groups are of longer duration and may typically last throughout the entire course of a semester. An element of commonality among all the studies listed earlier is that they evaluate the effectiveness of intra-institutional collaboration between students taking a particular course in a subject area and working in small groups of varying numbers, whether or not under the direct supervision of an instructor.

### **4. THE TURKISH PROJECT**

The Turkish Project collaborative learning model experimented during the spring semester 2000 at Maine Maritime Academy (MMA) is a variant of the earlier studies. The author developed the model based on experiences gained from incorporating the more traditional peer-learning exercises in various business and economics courses taught in previous years. The maritime business faculty members at the Dokuz Eylul University (DEU) were invited to participate in the pilot project prior to the start of the semester to which they readily consented. The author decided to introduce the model in an International Logistics Management course taught by him.

**PROJECT DESCRIPTION.** The MMA student sample consisted of fifteen third year students pursuing a BS degree in International Business and Logistics. The Turkish Project was one of the course requirements and the student performance in the project counted for 35 percent of their course grade. The students were required to find a Maine-based product that could be exported and sold in the Turkish market. The students grouped themselves into six teams, three groups of three students each, and another three groups of two students each.

The project was divided into three distinct phases. During phase one, the MMA students conducted a country analysis of Turkey that helped them to learn the Turkish history, culture, and other salient socioeconomic aspects. The students identified their product and its Turkish market potential during the second phase. During the third phase, the student worked out a logistics and marketing plan inclusive of landed cost of their product in Turkey, import and export documentation, customs formalities, a sales and distribution strategy to be pursued in Turkey as well as estimated sale prices and revenues from the operation.

The author assigned students deadlines for each phase, with approximately a month gap between each of the deadlines. A detailed written report was due at the end of each of the phases, with 30 percent of the project grade being assigned for each phase. The remaining 10 percent of the project grade were set aside to evaluate a final oral report made by each MMA student team.

**THE ROLE OF DEU STUDENTS.** Two DEU faculty members provided a listing of DEU students that would participate in the project as Turkish counterparts for the MMA students. The DEU students were to provide guidance and help the MMA students in understanding the Turkish culture and its socioeconomic and business features. Thus, the role of DEU students was limited to only serving as quasi-consultants rather than as direct stakeholders in the project.

**COMMUNICATION AND COORDINATION.** A project of this nature would be impractical in the absence of advances in communication technology. Both MMA and DEU have excellent internet capability that made the project possible. The project and its details were included in the author's personal web page maintained on the MMA server. The web page also hyper-linked to the team pairings as well as commonly used Turkish phrases and expressions to help the MMA students. All communications between the paired teams were to be done through e-mails with a copy of each e-mail transaction going to the author as well as each of the two DEU faculty members that assigned students for the project.

## 5. STUDY METHODOLOGY

The author drafted qualitative surveys to gather student perceptions prior to the project and also on completion of the project. The surveys were administered to MMA students as well as DEU students through their faculty members, using the internet as the com-

munication medium. A description of the pre- and post-project questionnaires follows.

**PRE-PROJECT SURVEY.** The researcher designed a pre-project questionnaire that consisted of two segments. The first segment sought to query the student expectations from the project while the second segment aimed at understanding their concerns (see Tables 1 and 2). The survey included statements related to each segment that were to be answered using the Likert scale with 1 being complete disagreement, 3 being indifferent and 5 being complete agreement. Further-more, students were also given the option to add statements of their own to capture any omissions and exclusions on the author's part.

**Table 1. Student Expectations**

NO.	STATEMENTS
1.	Make new friends
2.	Gain cultural knowledge
3.	Learn to do business in Turkey
4.	Become a better manager

**POST-PROJECT SURVEYS.** The re-searcher used two survey instruments to gather student perceptions on completion of the project and help evaluate its pedagogical outcomes. One instrument consisted of the same questions as those used in the pre-project survey (Tables 1 and 2). The other instrument consisted of seven statements that were to be answered using the Likert scale with the same notations as given earlier. Table 3 contains a listing of these statements.



**Table 3. Post-Project Outcomes**

NO.	STATEMENTS
1.	The project was a useful exercise
2.	Our team worked well
3.	Our team shared tasks well
4.	Foreign team was helpful
5.	Foreign could be more helpful
6.	Collaborative learning is good
7.	Continue collaborative learning

**Table 2. Student Concerns**

NO.	STATEMENTS
1.	May take a lot of time
2.	Dislike for strangers/foreign culture
3.	Language problems
4.	Cultural problems
5.	Other team unhelpful

**Table 4. MMA Student Expectations: Pre- and Post-Project**

Stmt. No.	Pre-Project							Post-Project						
	1	2	3	4	5	Mean	SD	1	2	3	4	5	Mean	SD
<b>Expectations</b>														
1.	4	5	5	0	1	2.27	2.35	6	5	3		1	2.00	2.22
2.				2	13	4.87	7.78			5	5	5	4.00	0.00
3.				1	14	4.93	9.19		1		5	9	4.47	4.00
4.		1	3	2	9	4.27	3.59		3	2	4	6	3.87	1.71
<b>Concerns</b>														
1.	2	3	5	2	3	3.07	1.22	4	2	1	3	5	3.20	1.58
2.	13	1	1			1.20	6.93	14				1	1.27	9.19
3.	1	2	7	3	1	3.07	2.49	2	7	2	1	3	2.73	2.35
4.	1	5	6	2	1	2.80	2.35	4	5	3	2	1	2.40	1.58
5.	5		6	2	2	2.73	2.06	1	1	4	2	7	3.87	2.55

## 6. EMPIRICAL ANALYSIS

The empirical analysis consists of three stages. The first stage analyses the identical pre- and post-project surveys, the second stage compares the mean values of the responses received from both MMA and DEU students, and the last stage interprets the results received from a revised post-project survey distributed to MMA students.

**STAGE ONE (MMA STUDENTS).** All fifteen MMA students answered the three survey instruments listed above. Eight DEU students responded to the pre-project survey. The post-project surveys were sent to the DEU students through their faculty members and their responses as well as responses from the DEU faculty are expected in the near future. All responses are tabulated in the following pages. Table 4 compares the pre- and post-project responses received from MMA students, the weighted-averages of those responses and their standard deviations.

The responses indicate that MMA students did not begin the project anticipating major social gains such as making new friends. The post-project responses give further credence to this. The students agreed strongly with the second statement that they expected to enhance their cultural knowledge from the project. The post-project responses however tempered this observation although they still expect similar projects as an effective learning tool in understanding foreign culture. A similar pattern can be observed in the student responses to the statements three and four. There was relatively strong agreement with the expectation that the learning model would help in gaining professional knowledge and competence essential to function effectively in the global market. The lowering of student expectations in the post-project survey is a reflection of the need for fine-tuning of the project rather than their rejection of this pedagogy. The analysis of pre-project student concerns indicates that they were indifferent to the time factor becoming a major issue. The

students strongly disagreed about cultural incompatibilities affecting their performance. They were also relatively neutral about language problems as well as other teams not providing sufficient help. The only noticeable trend from the post-project survey was the MMA students' concern about the Turkish teams not providing sufficient help. Answers to all the other statements remained relatively neutral with the only exception being statement number two that was rejected strongly once again.

**Table 5. DEU Student Perceptions**

NO.	1	2	3	4	5	MEAN	SD
<b>Expectations</b>							
1.	1	2		2	3	3.50	0.82
2.		2	2	2	2	3.50	0.00
3.			1	2	5	4.50	2.08
4.	2		1	1	4	2.73	2.06
<b>Concerns</b>							
1.	2	1	1	2	2	3.13	0.55
2.	6	2				1.25	2.83
3.	4	1	2	1		2.00	1.41
4.	5		2	1		1.88	2.08
5.	3		1	1	2	2.86	0.96

**STAGE ONE (DEU STUDENTS).** Table 5 shows the responses received from DEU students. The responses to the first segment tend to be in agreement with all given statements including the expectation to make new friends. They were indifferent to two of the concerns, viz., the time commitments and the other team not being helpful. Their

responses to the other three statements ranged from mild to strong disagreement.

**STAGE TWO.** This stage shows a comparison of the mean values of the MMA and DEU student responses. As the author has not yet received DEU student responses to the post-project survey, a composite weighted-average value was developed for the MMA students. Table 6 shows the comparisons.

**Table 6. Comparison of Mean Responses**

NO.	MMA		DEU	
	MEAN	SD	MEAN	SD
<b>Expectations</b>				
1.	2.13	4.69	3.50	0.82
2.	4.43	7.38	3.50	0.00
3.	4.70	9.82	4.50	2.08
4.	4.07	5.52	3.63	1.41
<b>Concerns</b>				
1.	3.13	1.22	3.13	0.55
2.	1.23	11.75	1.25	2.83
3.	2.90	2.95	2.00	1.41
4.	2.60	3.39	1.88	2.08
5.	3.30	3.67	2.86	0.96

Analyzing Table 6, the MMA student expectations are generally more in agreement with the given statements with the sole exception of the statement that pertains to making new friends. The answers to concern-related statements also show many similarities. One could conjure a number of explanations for the minor differences especially in the

responses to the sociological benefits of the project, a major one being the cultural differences between the Turkish and the U.S. students.

**STAGE THREE.** The statements tested in this survey are shown in Table 3 and the responses are analysed in Table 7. The students agreed that the project was a useful learning exercise. In general, the MMA teams worked well and shared their tasks well internally among the respective teams. They disagreed that the DEU teams were as helpful as they would have liked. This was con-firmed with a similar question (statement number 5) to eliminate questionnaire bias. The most promising outcomes of this study are found in the answers to statements 6 and 7. The students agreed moderately or more that collaborative learning is a good pedagogical model and such efforts should be continued.

**Table 7. MMA Students Post-Project Perceptions**

NO.	1	2	3	4	5	MEAN	SD
1.		1	4	3	7	4.07	2.50
2.		3	2	5	5	3.80	1.50
3.	1	2	1	7	4	3.73	2.55
4.	8	3	2	1	1	1.93	2.92
5.		1	4	2	8	4.13	3.10
6.		1	3	4	7	4.13	2.50
7.		1	3	2	9	4.27	3.59

## 7. OUTCOMES ANALYSIS

The responses received have reaffirmed the usefulness of the collaborative learning model

used in this study. It is the author's intention to fine-tune the model to enhance the effectiveness of similar academic projects. However, the numerous hurdles that exist in such ventures must also be acknowledged.

One major difficulty is in finding a foreign university whose academic year is at least somewhat similar to the own university's academic calendar. In the case of MMA and DEU, the MMA spring semester began approximately a month before the DEU's semester. Such difficulties can be overcome through careful planning of the activities and the class agenda.

Once partnering universities are identified, there is the important issue of finding a faculty member teaching a related course in the foreign campus and who is willing to get involved in such an exercise. Most faculty members do not have the spare time to coordinate the activities of their students as well as that of their counterparts elsewhere. Only an extra-ordinary faculty member is willing to go over and beyond what is normally done in a classroom to accomplish a task of this nature. Furthermore, there has to be adequate incentives for the students from the foreign university to get involved in the project. One mechanism to accomplish this is by having a reciprocal project for the foreign students who would also receive academic grade for their efforts that would depend on the cooperation received from the people that they were originally expected to help. One should expect student complaints about the lack of cooperation from the other team given the human propensity to blame someone else for their own failures. So, the faculty members must be adept in handling such charges and countercharges. All these hurdles are over and above the difficulties typically associated with coordinating and grading an intra-campus group project.

## **8. APPLICATION IN THE MARITIME FIELD**

Although the Turkish project was conducted as part of a business course, the collaborative learning model can be applied in teaching traditional maritime courses as well. Examples could be collaborative projects in Coastal Navigation (Passage Planning), Meteorology and Engineering that necessitate students with expertise in the subject matter explaining that to other students. This would help reinforce the knowledge base of the students teaching others. As an example, a student group from a U.S. maritime university could be tasked to make a passage plan for transiting the Bosphorus Strait, or the Japanese Inland Sea, or the English Channel which could be critiqued by their peers in the counterpart maritime universities. The local students could disseminate their understanding of the local navigational challenges to their peers from foreign maritime universities who in their professional career would be better prepared to navigate their ships safely in those constrained waters. The work done in other fields have shown that collaborative teamwork and projects undertaken by heterogeneous groups encourage higher order thinking and problem solving [15] [16]. Furthermore, this would also prepare the future seafarers for understanding and appreciating foreign nationals, cultures and value systems. These are highly desirable skill-sets for future seafarers and will promote excellence in their profession.

## **9. CONCLUSION**

Collaborative learning models and their effectiveness in higher education is well recognized. It is well worth the time and effort to apply such models in maritime education because of the significant benefits they offer. The learning process is enhanced in these situations through social interaction that by itself is a highly desirable trait among future seafarers.

There is very little current use of such learning models in maritime education in general. Collaborative learning of the inter-



institutional type is rarely attempted even in the more traditional disciplines. The recently concluded Turkish Project showed that it can be done effectively between students in maritime universities. The availability of internet communications obviates the traditional communication difficulties that would have precluded pursuing such projects in the past.

The Turkish Project is far from perfect and has several areas that need improvement. Both groups of students must be carefully chosen and there should be adequate incentives for them to participate and contribute effectively in the learning process. As a learning model, it requires significant commitment and planning on the part of faculty members. The institutional faculty reward system should take such initiatives into account and due recognition must be given to faculty members who undertake such efforts. Philanthropic organizations should also promote such initiatives as it would be another step toward promoting safer seas and cleaner environment, so dear to one and all of us. It is concluded that the inter-institutional collaborative learning model has significant pedagogical potential in advanced maritime education and that it would contribute positively to the evolution of an era of excellence in maritime education and training.

## REFERENCES

1. Davis, Barbara Gross. Tools for Teaching. San Fransisco: Jossey-Bass, 1993.
2. Hill, Charles W.L. International Business: Competing in the Global Marketplace 3<sup>rd</sup> ed. Boston: Irwin McGraw-Hill, 1999.
3. Shashikumar, N. *An Analysis of Liner Strategies in An Era of Global Supply Chains*. Paper to be delivered at the 2000 International Association of Maritime Economists Annual Conference in Naples, Italy, Sept. 13-15, 2000.
4. Shashikumar, N. *Tanker Markets in the 21<sup>st</sup> Century: Competitive or Oligopolistic?* Proceedings of the International Association of Maritime Economists Conference held at the Massachusetts Institute of Technology, Boston, USA, Dec. 15-16, 1995.
5. Shashikumar, N. *Current World Shipping Competition. U.S. Shipping Policies and the World Market*. W. Lovett, ed. Westport, CT: Quorum Books, 1996.
6. BIMCO/ISF. *Manpower Update 2000*. Seaways May 2000: 22-24.
7. Beckman, M. *Collaborative Learning: Preparation for the Workplace and Democracy*. College Teaching 1990 38 (4): 128-33.
8. Chickering, A.W., and Gamson, Z.F. (eds.) *Applying the Seven Principles for Good Practice in Undergraduate Education*. New Direction for Teaching and Learning No. 47, San Fransisco: Jossey-Bass, 1991.
9. Collier, K.G. *Peer-Group Learning in Higher Education: The Development of Higher Order Skills*. Studies in Higher Education 1980 5.1: 55-62.
10. Cooper, J. and Associates. Cooperative Learning and College Instruction. Long Beach: Institute for Teaching and Learning, California State University, 1990.
11. Goodsell, A., Maher, M., Tinto, V., and Associates (eds.). Collaborative Learning: A Sourcebook for Higher Education. University Park, PA: National Center on Post-secondary Teaching, Learning and Assessment, Pennsylvania State University, 1992.
12. Johnson, D.W., and Johnson, R.T. Cooperation and Competition: Theory and

Research. Edina, MN: Interaction Books, 1989.

13. Johnson, D.W., Johnson, R.T. and Smith, K.A. *Cooperative Learning: Increasing College Faculty Instructional Productivity*. ASHE-ERIC Higher Education Report No. 4. Washington, D.C.: School of Education and Human development, GWU, 1991.
14. Whitman, N. A. *Peer Teaching: To Teach is To Learn Twice*. ASHE-ERIC Higher Education Report No. 4. Washington, D.C.: School of Education and Human development, GWU, 1988.
15. American Psychological Association. Learner-Centered Psychological Principles: Guidelines for School Redesign and Reform. Washington, DC: American Psychological Association, 1992.
16. McCombs, B. L. *Motivation and Lifelong Learning*. Educational Psychologist 1991 26(2): 117-127.