Aboa Mare Portfolio

A prototype version of a new elective course

Sami Laine

Jonas Bergström

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Author: Sami Laine, Jonas Bergström

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Summary

This bachelor´s thesis covers the developing and content of a new elective course, exclusively aimed for maritime students studying at Aboa Mare. The basic idea with the course is that students build their personal information bank - what we call *"The Aboa Mare Portfolio"*. The portfolio contains the most vital information from each subject, with the intention to later serve as a comprehensive toolbox in order to solve future, real life and work related duties as an officer.

The focus throughout this thesis project have been from a practical approach rather than a theoretical perspective. Thoughts, ideas, and recommendations mostly originate from the authors´ own experiences during the education.

Emphasis has been put on how to design the course to be as cost efficient as possible while at the same time yielding maximum synergies for Aboa Mare.

Language: English Key words: Elective course, Portfolio,

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Abstrakt

Detta examensarbete handlar om framtagandet av en ny valbar kurs för elever som studerar sjöfart vid Yrkeshögskolan Novia i Åbo.

Kursen går ut på att eleverna bygger en personlig informationsbank som vi kallar för *”Aboa Mare Portfolio”.* Portfolion består bland annat av kursmaterial från skolan som sammanfattas under olika ämnesområden. Den byggs succesivt i takt med att kunskap erövras med förhoppningen om att kunna bistå som hjälpmedel i det dagliga arbetet som befäl.

Vi har haft ett praktiskt utgångsläge och fokuserat mer på själva utformningen och implementation snarare än teoretiska studier. Det enskilt viktigaste kriteriet som vi tagit hänsyn till under hela projektet har varit kostnadseffektivitet. Speciellt i åtstramningstider gäller det att effektivisera och göra samma saker med mindre resurser, något vi tror *”Aboa Mare Portfolio”* kan bidra med.

Språk: Engelska Nyckelord: Valbar kurs, Portfolio

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Preface

This bachelor thesis is the completion of the Master Mariner/ YH Sjökapten program at Novia University of Applied Science.

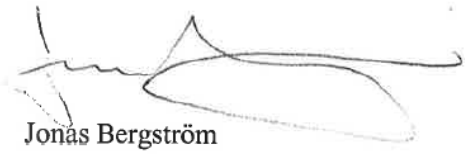
The thesis have been performed at Aboa Mare training facilities, Auriga Port Center in Turku, during the winter and spring 2016.

The authors would like to thank all the people involved who have helped us through this project. Lecturer Anton Westerlund and former lecturer Thomas Friis, who encouraged us during the initial meetings and continuously have supported and guided us forward in the process. Supervisors at the University, Peter Björkroth and Petteri Niitymäki who gave us valuable tips regarding project based thesis's and believed in our idea.

Your support has been an absolute necessity for the accomplishment of this study, and without you, we would never got the confidence of carrying on with the project and maintain focus. Thanks everyone!

Turku, May 24 2016

Sami Laine



Jonas Bergström

Glossary

TMS = Turku Maritime School

sp = Studie points

bmf = Block mode format

ARPA = Automatic Radar Plotting Aid

ECDIS = Electronic Chart Display and Information System

GNSS = Global Navigation Satellite System

IBS = Integrated Bridge System

BRM = Bridge Resource Management

DP = Dynamic Positioning

Colregs = International Regulations for Preventing Collisions at Sea

TerrNav = Terrestrial Navigation

CCM = Crowd and Crisis Management course

GOC = General Operator's Certificate

IMDG = International Maritime Dangerous Goods

ISM = International Safety Management

OSC = On Scene Commander

SAR = Search And Rescue

SSO = Ship Security Officer

Ro- Ro = Roll on Roll off

1 Introduction

The introduction chapter aims to give a deeper understanding of the fundamental and theoretical reasoning behind the idea for this thesis. Starting in the background section where the reader will gain valuable insights regarding Turku Maritime School´s (hereby referred as TMS) unique course schedule set- up, and its relevance for the development of this thesis.

Moving on to the objective, where several advantages are presented from a “win- win” perspective (for students as well as for TMS) in regards to benefits and positive synergies that can arise from this thesis. The chapter is then rounded up with a summarized objective followed by the defined research question.

The third chapter exclusively deals with conclusions from previous studies conducted in the field of intensive learning and the drawback that follow from such learning technique.

Moving on to chapter four, where the authors´ own result and final product - The prototype version of *"Aboa Mare Portfolio"* is presented.

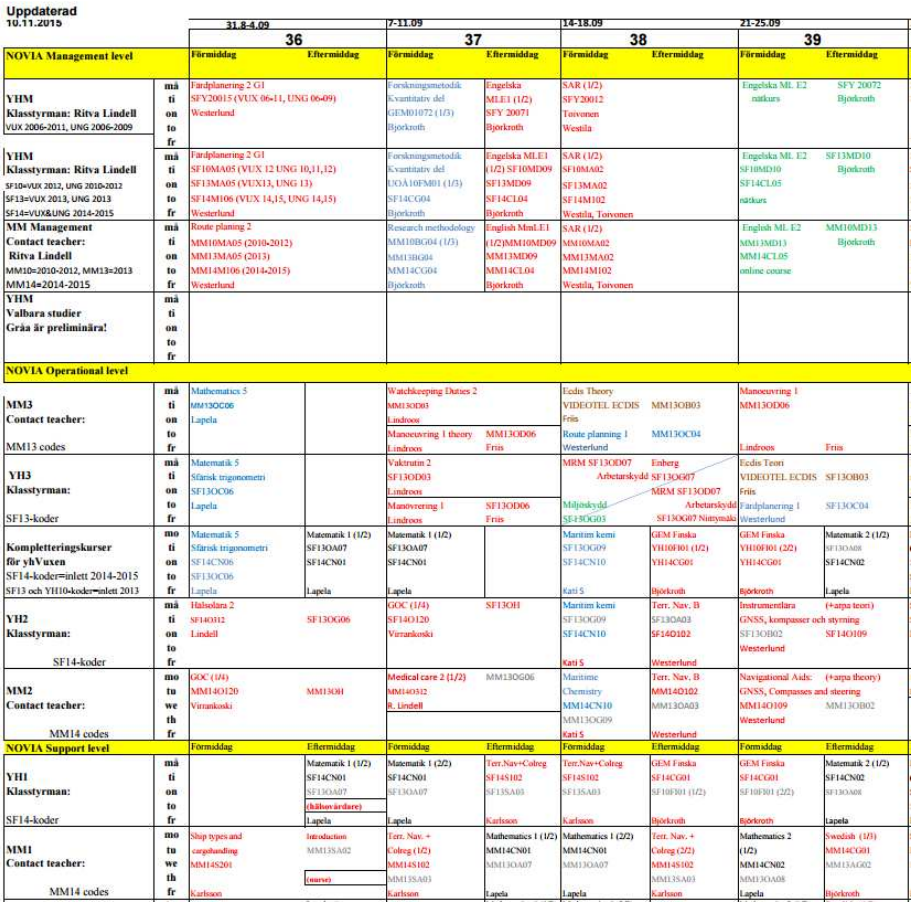
Implementation recommendations are covered in chapter five while the open discussion takes place in chapter six.

1.1 Background

TMS is unique in terms of its course set- up approach compared to other Maritime Schools in Finland as well as to traditional universities in general. Instead of scheduling their courses over a longer period of time (i.e. 8 to 16 weeks) with recurring lectures', TMS utilize an intensive teaching model where the majority of all courses are run for one straight week. This type of teaching technique is referred to as “block mode format” (Dr. M & Prof, 2012), hereby referred as bmf.

Advantages and disadvantages of this type of learning technique will be further discussed in chapter two of this thesis.

In short it could be summarized as each subject is broken down into several minor courses, resulting in more (in terms of number) courses. As a consequence, these courses are less extensive, and thus worth less study points (hereby referred as sp). However, the overall scope of TMS education is the same as to other Maritime Schools and follows the International regulations stipulated in the STCW- code. Below is a course schedule sample, for to students enrolled at Novia University of Applied Science.



Uppdaterad 10.11.2015		31.8-6.09		7-11.09		14-18.09		21-25.09	
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YHM	må	Färdplanering 2 G1		Forskningsmetodik	Engelska	SAR (1/2)		Engelska ML E2	SFY 20072
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MM10=2010-2012, MM13=2013	to	MM14M106 (2014-2015)		MM14CG04	MM14CL04	MM14M102		online course	
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Contact teacher:	ti	MM13OC06		MM13OD03		VIDEOTEL ECDIS	MM13OB03	MM13OD06	
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för yhVuxen	on	SF14CN06	SF14CN01	SF14CN01		SF14CN10	YH14CG01	YH14CG01	SF14CN02
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Klasstyrman:	on	Lindell		Virrankoski		SF14CN10	SF14D102	SF13OB02	SF14O109
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MM2	tu	MM14O120	MM13OH	MM14O312		Chemistry	MM14O102	GNSS, Compasses and steering	
Contact teacher:	we	Virrankoski		R. Lindell		MM14CN10	MM13OA03	MM14O109	MM13OB02
	th					MM13OG09		Westerlund	
MM14 codes	fr					Kati S	Westerlund		
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YH1	må		Matematik 1 (1/2)	Matematik 1 (2/2)	Terr.Nav+Colreg	Terr.Nav+Colreg	GEM Finska	GEM Finska	Matematik 2 (1/2)
Klasstyrman:	ti		SF14CN01	SF14CN01	SF14S102	SF14S102	SF14CG01	SF14CG01	SF14CN02
	on		SF13OA07	SF13OA07	SF13SA03	SF13SA03	SF10FI01 (1/2)	SF10FI01 (2/2)	SF13OA08
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Contact teacher:	we	MM14S201		MM14S102	MM13OA07	MM13OA07	MM14S102	MM14CN02	MM13AG02
	th		(course)	MM13SA03			MM13SA03	MM13OA08	
MM14 codes	fr	Karlsson		Karlsson	Lapela	Lapela	Karlsson	Lapela	Björkroth

Figure 1; Sample of course schedule set- up

Necessary to mention in this context is that the courses are "color coded" according to attendance requirements. Red color corresponding to compulsory attendance, typically followed by a written exam on the last day of the course.

Blue course code meaning physical absence can be compensated by individual assignments while black and green code implies that the course can be completed from distance. The "red course code" originates from the STCW- code, which stipulates what subject and content that requires mandatory attendance.

The TMS course set- up approach was established already in the early 1990's, with one of its main purposes being to provide students with greater flexibility in their studies, and thus, the possibility to be working at sea meanwhile completing their studies.

This is somewhat true and can be achieved in a greater extent compared to other Maritime Schools that utilize the "traditional" course set- up, where the mandatory attendance STCW- courses are spread out over a longer period of time (for example over a whole

semester). The later example makes it almost impossible for maritime students to be working at sea (besides from weekends and school holidays).

However, although the system with weekly courses provides benefits for the individual student it also possesses several disadvantages, mainly in terms of negative side effects related to intensive learning. Several studies have found that distributing information over time is far superior in order to facilitate lifelong learning compared to intensive learning (Scott & Conrad, 1991, p. 415) (McDaniel & Fadler, 2013).

2 Objective

To overcome the disadvantages from education undertaken in bfm, collecting and storing course material for later review therefore becomes somewhat vital in order to facilitate lifelong learning. This fact is one of the fundamental reasons behind the creation of this thesis final product – the *"Aboa Mare Portfolio",* which purpose is to serve as a personal information bank, containing the most important course material and information belonging to each subject easily accessible in a digital version for the individual to review at any time.

2.1 Win-win from Student perspective

Other reasons why the authors believe creating this kind of a personal information bank for the students is a good idea are;

- Maritime studies as a subject

  Compared to other subjects (such as economics, science, arts & humanities for example) there are limited resources available online covering nautical topics. This is especially true for acquiring in-depth information, thus making it more difficult to obtain this kind of information once it has been lost.

- Future work related duties as OOW

Creating, updating and implementing manuals and quick reference guides are common work related duties for Officers onboard. By creating a personal copy of *"Aboa Mare Portfolio"*, the student will gain valuable practical experience of this type of work, and hence become better prepared for similar tasks once starting his/ her career as an Officer.

- Greater possibilities to solve and assist in work related problem

Normally, one should be able to find answers to all possible arising work related problems either in ships´ library or from ship specific manuals. However, a ships´ library is often quite extensive and can consist of numerous different publications covering several hundreds of pages, thus retrieving this information has the tendency to be time consuming, especially for inexperienced officers.

In these type of situations it is likely that one's personal information bank can assist in solving the problem (either completely or partly), by guidance from lecture slides- and notes on where to search (which publications) for the required in- depth information.

- Professional appearance of the cadet/ student

The idea is that all new students starting their studies at TMS get the possibility to create their personal portfolio. This thesis will serve as a template containing the structure and empty bottom, ready for students to start adding the most vital information from their completed courses. By keeping the information bank in a digital format and up to date (i.e. continuously updating it as courses are completed), the portfolio will become beneficial for the students already from day one.

Furthermore, bringing the portfolio along during the students onboard training will not only assist in the problem solving situations, but also demonstrate a professional attitude toward his/ her future career.

2.2 Win- Win from TMS perspective

In addition to the positive synergies viewed from a students' aspect listed above, a win-win perspective also exists for TMS in terms of;

- Lack of elective courses from TMS

As a result of the latest modification of the STCW course outline, elective studies at TMS have been replaced by a "specialization package" (Off- shore, Ice navigation, and Cruise ship). In practice this implies that students enrolled 2014 and later chooses their own individual area of expertise where the elective studies are included and accounted for (although the overall scope of elective studies has remained the same in the course outline, 15 sp).

The restructuring has resulted in a clear win- win situation for both TMS as well as for the students. Students gain a somewhat competitive advantage as they acquire in- depth knowledge from the above mentioned sectors, meanwhile TMS have been able to cut costs (as the competence to teach these "specialization packages" is found in-house compared to purchasing external consultants supplying elective courses).

The ambition with *"Aboa Mare Portfolio"* is to achieve similar results. The implementation recommendations (outlined under chapter 4.1) ensures a cost efficient effectuation, and at the same time TMS extends their selection of elective courses available for students.

Offering additional elective courses will also benefit TMS from a financial perspective as the Finnish Ministry of Education requires students to complete 55 sp/ year in order to receive the government funding. From this perspective the TMS course outline possesses a major drawback, since its uneven distribution of courses/ sp available for each year's students does not qualify for this criteria every year. The implication if/ when this occur, is that TMS lose their yearly government funding (example; third year student only complete 50 sp - TMS gets nil government funding).

Thus, by offering additional elective courses TMS possesses a greater possibility to secure its yearly funding (the same is true from a student perspective as they also have obligations to complete enough sp/ year to earn their personal support/ funding).

- Part of longer term strategy to position TMS as the market leader for Maritime Education in Finland

Another positive outcome from the "specialization package" (covered in the previous section), is that TMS (in terms of a strategic approach) already somewhat have diversified itself from other Maritime schools in Finland (as none of the other Maritime Education programs offer similar areas of expertise). Possibilities on how TMS can capitalize ever further on such a diversification will be discussed later in this thesis, under the topic "strategic fit" (found in chapter 4.2) and recommendations (chapter 5).

However, *"Aboa Mare Portfolio"* has the potential to amplify such a diversification. If seen from a product perspective, the "*Aboa Mare Portfolio"* could somewhat be regarded as "a beneficial toolbox for future Officers to use in their daily work related duties". As this product would be unique to TMS students, TMS could argue their diversification meet the demand of today's job market way better than its competitors. This is especially true when taking the already existing cadet agreements into consideration (Royal Caribbean Cruise Line and Reederei Nord Group), as well as in-depth knowledge acquired from the "specialization packages".

However, a pre- requisite for TMS to earn the reputation of being the leading Maritime Education in Finland (as the long term outcome), is to ensure the adoption and implementation of *"Aboa Mare Portfolio"*.

2.3 Summarized Objective

The objective for this thesis could therefore be summarized as;

"To develop an elective course worth of 5 SP that provides the student with a comprehensive toolbox in order to fulfill his/ her future work related duties as an Officer, with the purpose of facilitating lifelong learning and to gain a competitive edge on today´s job market"

2.4 Research question

The discussion in the previous sections forms the foundation of this thesis, and leading to the following research question:

- To design a portfolio structure, called *"Aboa Mare Portfolio Prototype 1.0"*, consisting of an empty bottom, including learning objectives of each subject, ready for TMS to implement into its course outline.

3 Research Methods

As the emphasis of this thesis have been on the practical part, the theoretical research part is limited and has been narrowed down to qualitative research, with a particular focus on the concept of time and learning.

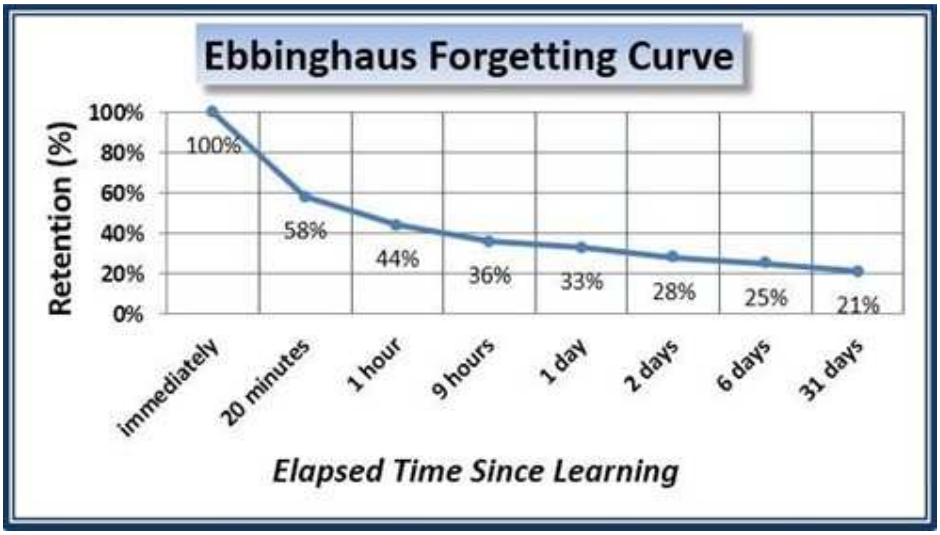
3.1 Delimitation

- The prototype portfolio included in the thesis does not come with filled content under each topic. However, a sample examples from the "subject folder" meteorology will be provided as guidance on how the content in a filled folder might look. Also, a copy of the authors personal portfolio including full content will be provided to TMS for future development of the *"Aboa Mare Portfolio"*.

3.2 Previous studies on Intensive Learning

The concept of time and learning have been of interest to educational researchers for a long time and several studies have been conducted in this field. One of the most common approach under this topic is what has been referred to as “massed versus spaced learning”, which originates back to Ebbinghaus's classical learning experiments in the late nineteenth century. Ebbinghaus's findings have later been replicated in dozens of studies and its´ main findings can be summarized as “distributing information over several spaced presentations is far superior to learning material in a single massed session" (Scott & Conrad, 1991, p. 415).

The basic idea behind Ebbinghaus's findings is that the concept of learning consists of both learning and forgetting. The memory performance benefits from the spacing of information and is illustrated in Ebbinghaus's forgetting figure below.



Figur 2; The forgetting curve [1]

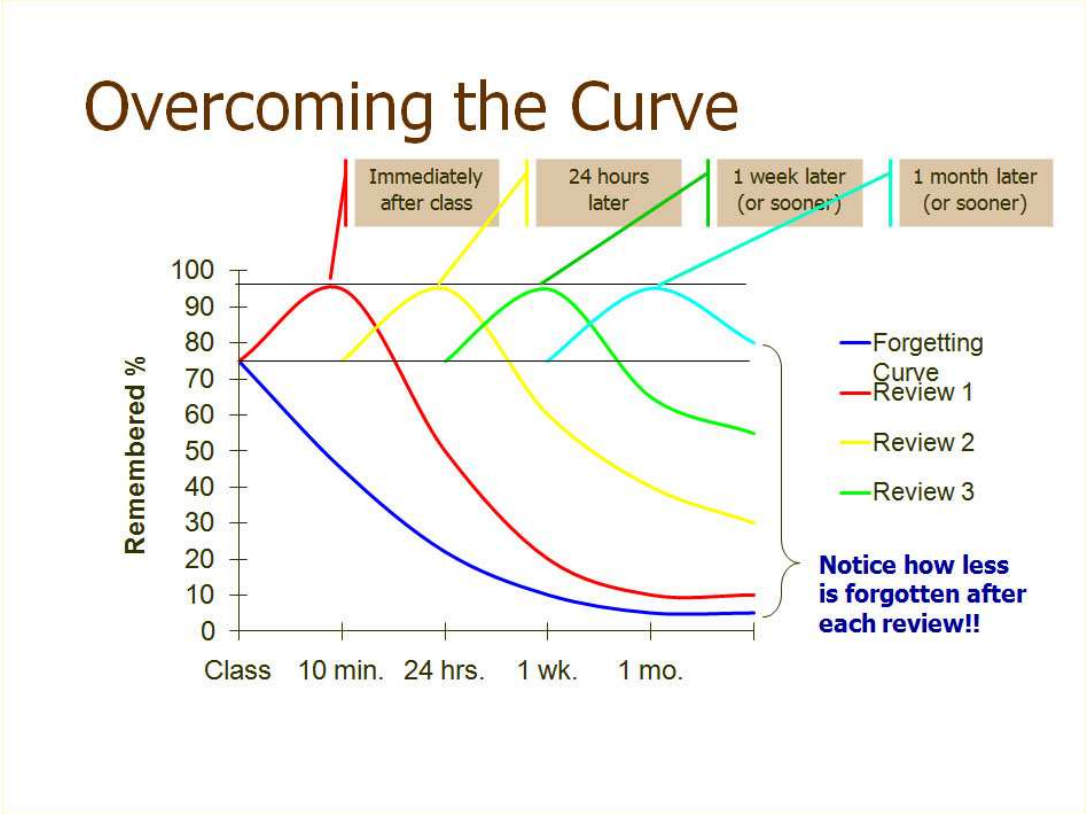
Furthermore, experiments conducted by associate Professor of surgery B. Price Kerfoot, M.D. ’96, Ed.M. ’00 on medical students at Harvard University, has proved that spaced education can increase knowledge by up to 50 percent, and strengthen retention for up to two years (Lambert, 2009).

Researchers Mark A. McDaniel and Cynthia L. Fadler from Washington University had similar findings from their study titled *“Effects of Spaced versus Massed Training in*

[1] http://www.trainingindustry.com/wiki/entries/forgetting-curve.aspx

Function Learning", presented in the 2013 *Journal of Experimental Psychology: Learning, Memory, and Cognition*. A comprehensive experiment study concluded that spaced learning led to superior performance compared to massed on all test trial types (McDaniel & Fadler, 2013).

While the above researchers have concluded that people forget over time, Pavlik and Anderson (Pavlik Jr & Anderson, 2004) focused their research on how to overcome the problems associated with forgetting. Experiments concluded not only that revision restores recall, but also that forgetting is less after second and subsequent revisions. The figure below illustrates the advantages in terms of not forgetting when revision is applied.



Figur 3; Overcoming the forgetting curve [2]

[2] http://www.mentormegate.com/wordpress/2014/06/10/mentor-me-gate-the-forgetting-curve/

3.3 Allocated Time and Learning

As mentioned in the section above a spaced approach of learning has significant advantage compared to massed, but at the same time this can be compensated by revision.

However, forgetting and learning are two different things and the ability to learn depends on other factors, of which allocated time is one of the most important.

Research in this field have indicated that the relationship between time and learning is less than clear- cut. This fact stands in a direct contrast to the somewhat common belief among educators that suggest that more time fosters more learning. Karweit's review of the time and learning suggest that more time may result in more learning, but only if the adequate time was the major cause of the problem in the first place. Furthermore, the research conclude that “time is a necessary, but not sufficient, condition for learning" (Karweit, 1984)

3.4 Portfolio Theory

In short, the theoretical concept of portfolio theory is a financial optimization investment strategy used by professionals in order to maximize profits. Thus, the "Aboa Mare Portfolio" should not be mixed up with traditional portfolio theory, and besides from its name it has no connection what so ever to the theoretical concept of portfolio theory (Investopedia, u.d.).

However, the term "portfolio" holds different meanings. Particularly among creative professions (for example designers and illustrators), it is typical to present a summary of their work and skill set in a format commonly referred as "personal portfolio".

"Aboa Mare Portfolio" holds some similarities to a "personal portfolio" but differ fundamentally in the way that designers and illustrators mainly use their portfolio in order to market themselves, their skills, and their products to a broad market,. This is not true for

"Aboa Mare Portfolio", as its' main purpose rather is to assist in solving future work related tasks as an officer.

4 Result

In this chapter the defined research question will be answered, or rather presented, as the creation and development of the portfolio prototype is somewhat more the result of a practical approach of completing the thesis.

The attachment (USB memory stick) includes the prototype version of the portfolio in its wholeness, while explanations of the structure, design, and content will be presented in detail under this chapter.

4.1 Format

When designing the format and structure of the portfolio, following prerequisites was taken into consideration in order to achieve best possible outcome:

- Accessible in terms of a digital and portable version
- Easy to grasp design
- Simple for students to continuously update their personal portfolio
- TMS course outline

The result after taking the above stated prerequisites into consideration ended up being a "Windows tree folder" like structure, containing main - and subtopics followed by subject folders.

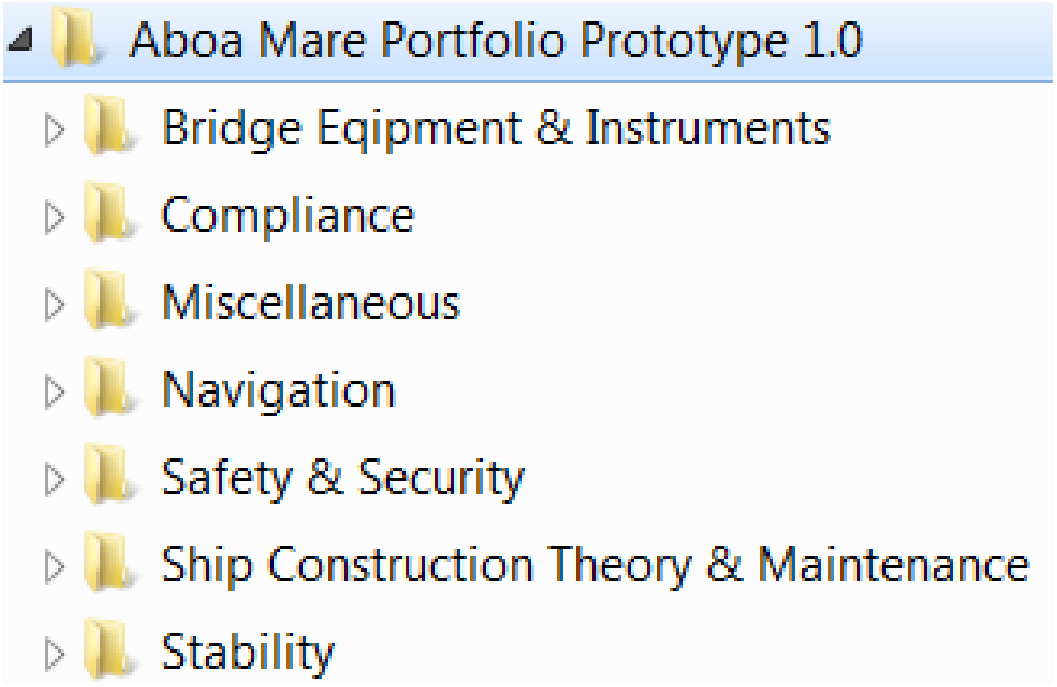
In this way the portfolio is still compatible with the TMS course outline, although not all TMS- courses are covered in terms of having a folder directly belong to that particular course. An example of the later would be the "Terrestal Navigation" courses, which in the TMS course outline are divided into four parts (A, B, C, and D) but all appears under the same folder in the prototype portfolio.

Furthermore, some TMS courses are completely left out from the portfolio. These courses mostly belong to the group of so called "general courses" (such as all of the language courses), but also other subjects have been have been left out from the portfolio. This is either due to its´ lack of relevance for officer work related duties, or simply because the content of the course have been of such a type that it doesn´t fit in the portfolio (example welding and metal work).

However, content from these courses can still be inserted into the portfolio, either under the main topic "miscellaneous" or in a comparable subject folder. An example of this could be the TMS- course "Professional English one" (course content covers radio communication in distress situations and in routine radio traffic), which instead can be inserted under subject folder "GOC".

4.2 Main topics

There are seven main topics which cover the entire content of the portfolio. Under each main topic belongs subtopics, which will be presented and explained in next chapter (4.3).



Figur 4; Main topics ***"Aboa Mare Portfolio prototype 1.0"***

4.3 Subtopics

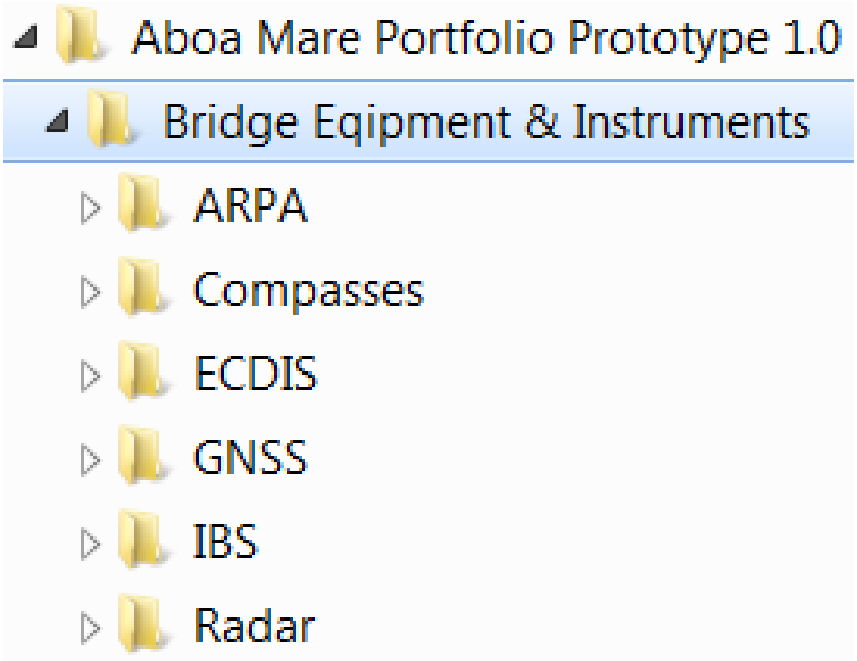
The subtopics are further divided into "subject folders". The subject folders mostly corresponds directly to a specific TMS course (as in the case with "bridge equipment & instruments", se figure 5 below).

4.3.1 Bridge Equipment & Instruments

All of the "subject folders" found under this subtopic are well recognized from the TMS course outline and directly corresponds to a specific TMS course.

The idea is that as soon as the student has completed any of these courses, he/ she will update his/ her personal portfolio with the course content belonging to the specific subject.

Note that the "white arrow" (to the left of the folder icon) indicates that the "subject folders" contains additional folders. This is the content belonging to each "subject folder", and will be further presented later in this chapter under topic 4.4 "subject folder content".



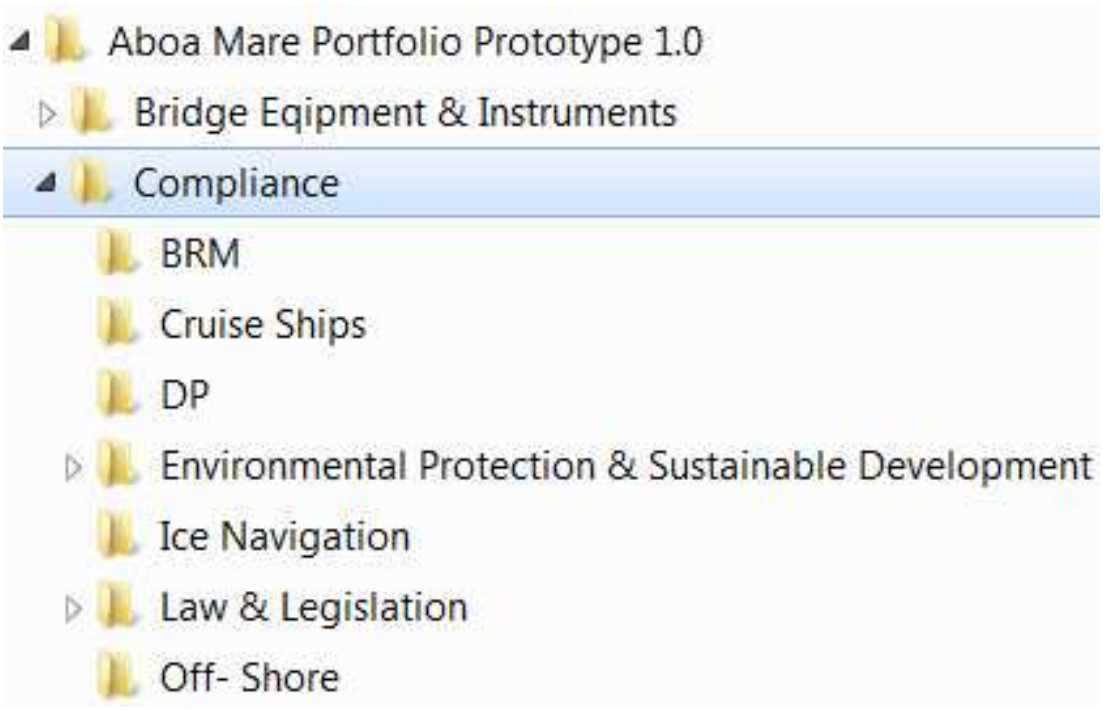
Figur 5; Subtopic; Bridge Equipment & Instruments - ***"Aboa Mare Portfolio prototype 1.0"***

4.3.2 Compliance

Besides from covering legal perspectives (as the heading suggest), the subtopic "compliance" somehow differ from the other subtopics for two reasons. First of all, this is where the "specialization packages" (described in 2.2) are covered.

Please note that these folders does not yet contain any content what so ever (as they are so fresh that learning objectives are still missing and none of the authors have any own experiences from these courses). Same applies to the subject folder "DP" (empty content,) that for the moment is not being taught by TMS due to not passing the auditing.

Secondly, this subtopic is where students can continue to develop their information bank once they have been employed or at on- board practice. Bridge Resource Management (BRM) is a typical example of a subject which differs a lot between ship types and moreover, company regulations are often unique even if in the same segment. Thus, this folder provides perfect opportunity for students doing their onboard training to further improve their personal portfolio with relevant information.



Figur 6; Subtopic; Compliance - ***"Aboa Mare Portfolio prototype 1.0"***

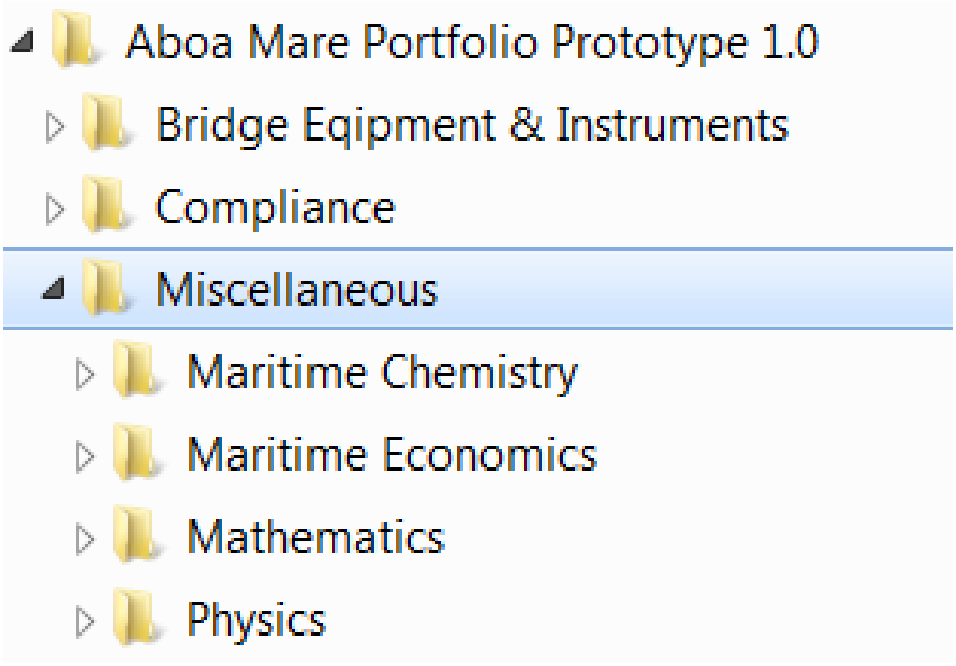
4.3.3 Miscellaneous

The subtopic "miscellaneous" consists of TMS courses that do not fit under any of the other main topics but still contain important content.

One could argue that "mathematics" and "physics" are key factors in order to understand and solve any navigational and stability issues, and therefore should appear under the corresponding "subject folder" such as "TerrNav" and "General Stability".

This is in fact true, as understanding spherical trigonometry is vital to solve great circle navigation problems (and same applies for physics in terms of stability calculations), but would however imply other implications as mathematics and physics fits into several other "subject folders" (example "spherical trigonometry" which also fits under "celestial navigation").

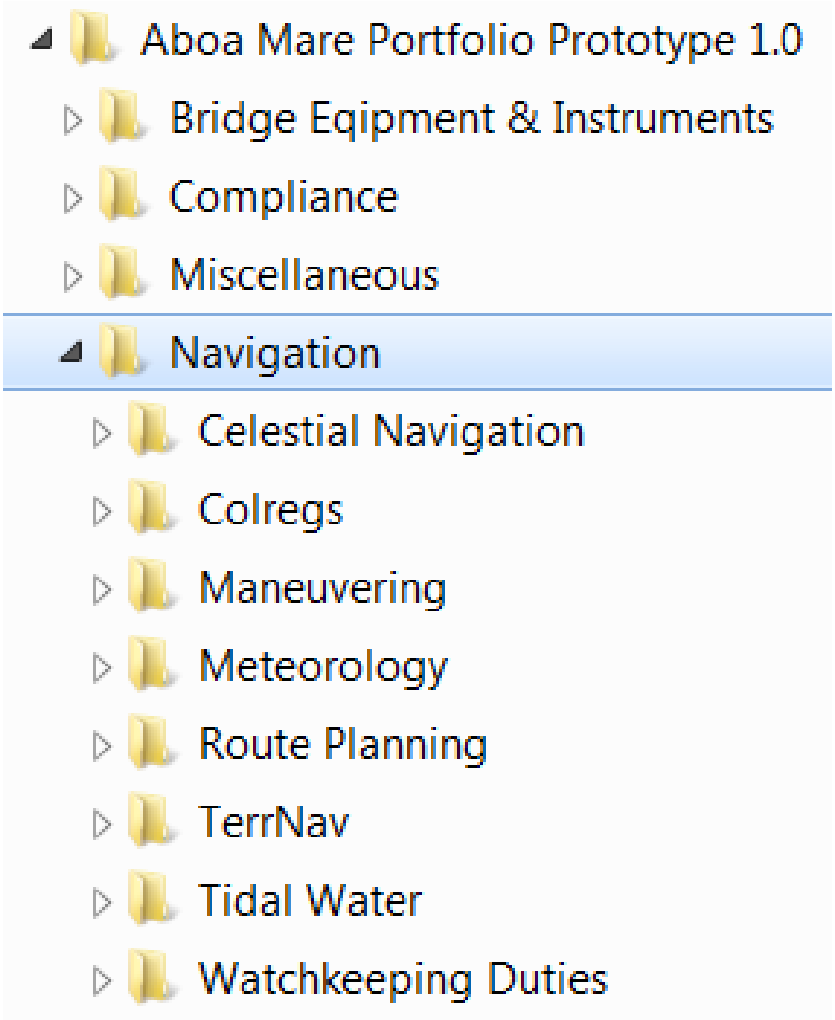
As this is somewhat a general problem ("mathematics" and "physics" actually belonging to several "subject folders"), shortcuts can be created to each one of the "subject folders". In this way the mathematics and physics material is only stored once, under the subtopic "miscellaneous", from where shortcuts are created to the "subject folders" when appropriate. Shortcuts will be further presented and explained under topic 4.5 "Shortcuts and Hyperlinks.



Figur 7; Subtopic; Miscellaneous - ***"Aboa Mare Portfolio prototype 1.0"***

4.3.4 Navigation

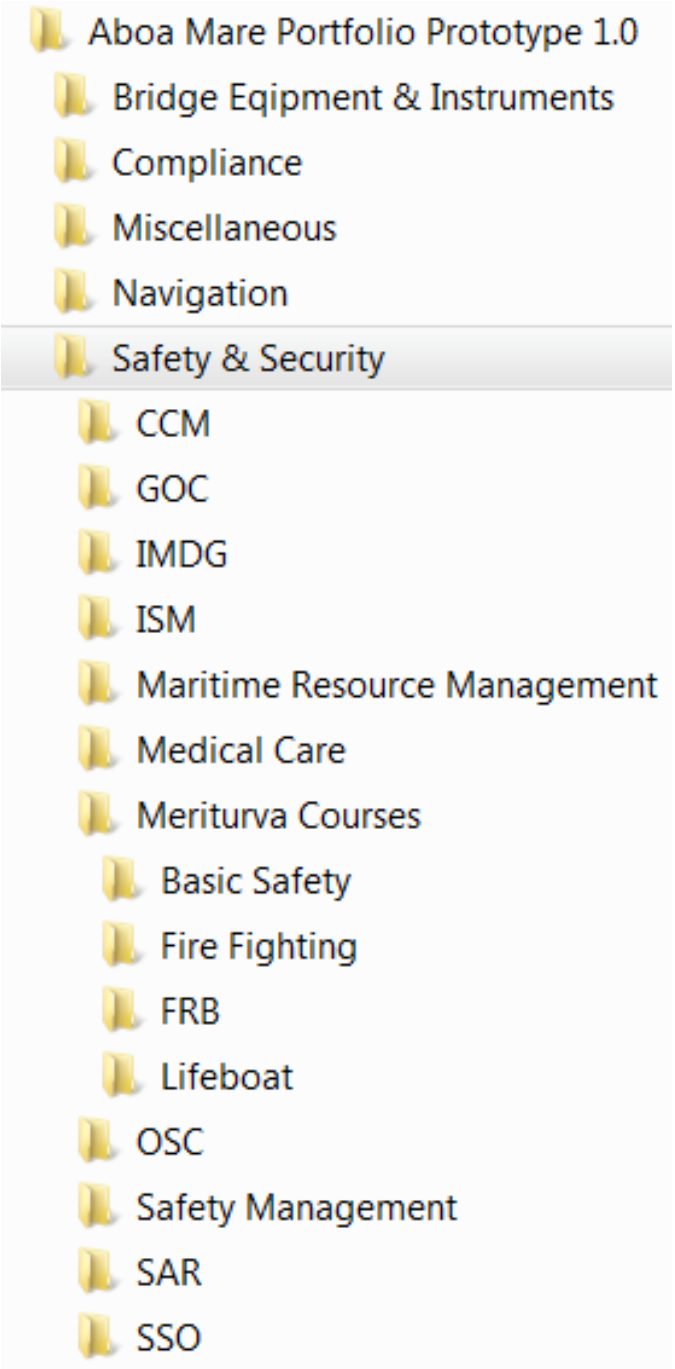
Subtopic "navigation", where most of the "subject folders" have their corresponding TMS-course with the exception of "Colregs", which in the TMS course outline appears as "TerrNav A". The rest of the "TerrNav" courses (B,C, and D) are all combined in the portfolio under the subject folder "TerrNav".



Figur 8; Subtopic; Navigation - ***"Aboa Mare Portfolio prototype 1.0"***

4.3.5 Safety & Security

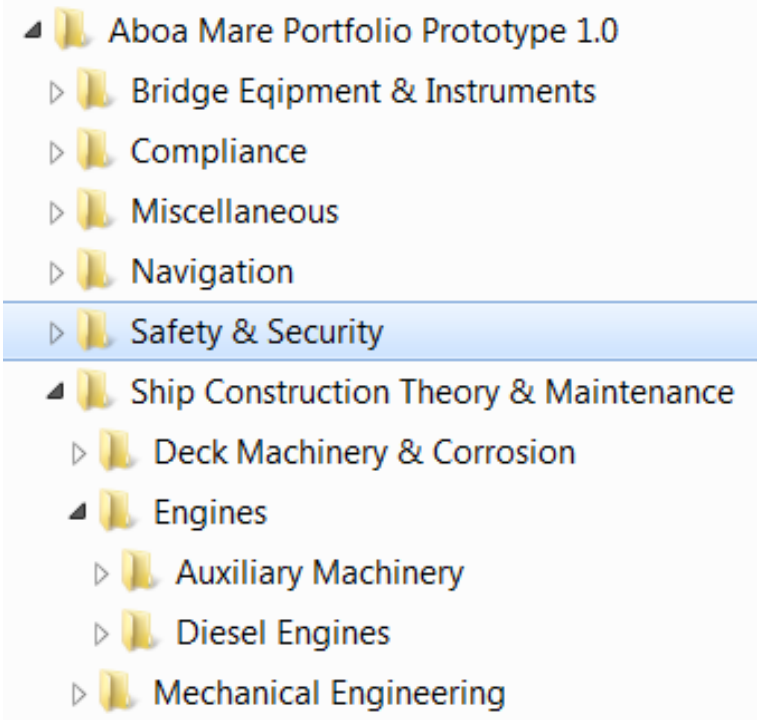
Subtopic "Safety & Security" follows the same structure except from the safety courses run by *"Meriturva - Maritime Safety Training Centre"*. These "subject folders" are so far empty as they don´t follow the TMS course content.



Figur 9; Subtopic; Safety & Security - *"Aboa Mare Portfolio prototype 1.0"*

4.3.6 Ship Construction Theory & Maintenance

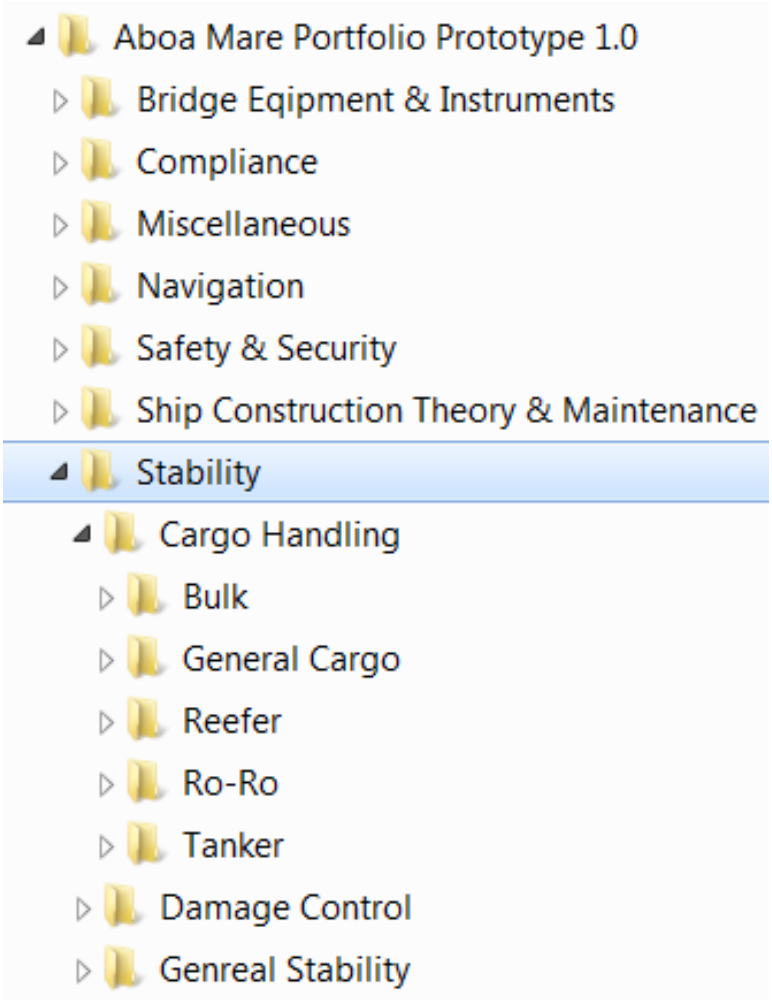
All "subject folders" belonging under subtopic "ship construction theory & maintenance" have its corresponding TMS- course.



Figur 10; Subtopic; Ship Construction Theory & Maintenance - ***"Aboa Mare Portfolio prototype 1.0"***

4.3.7 Stability

No surprises when it comes to subtopic "stability": Cargo handling courses are divided into the same structure as TMS course outline (management level). Subject folder "general stability" corresponds to TMS courses "stability one"- and "two" from operational level.

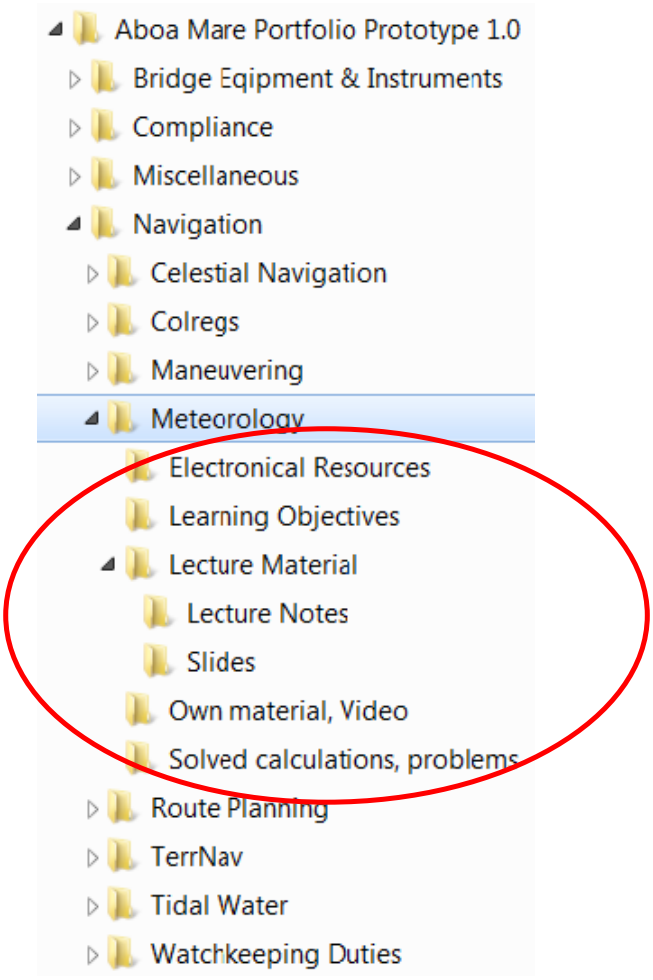


Figur 11; Subtopic; Stability - ***"Aboa Mare Portfolio prototype 1.0"***

4.4 Subject Folder Content - Sample example "Meteorology"

Inside the "subject folders" is where the actual portfolio content is to be found. Except the previous mentioned empty subject folders (such as the "Meriturva courses", "specialization packages", "DP", and "BRM") all of the "subject folders" utilize the same layout/ structure (seen in figure 12 below).

As the headings suggest the content in each of the folders are quite straight forward and won't be presented in detail here, but can be found and examined from the attached USB memory stick.



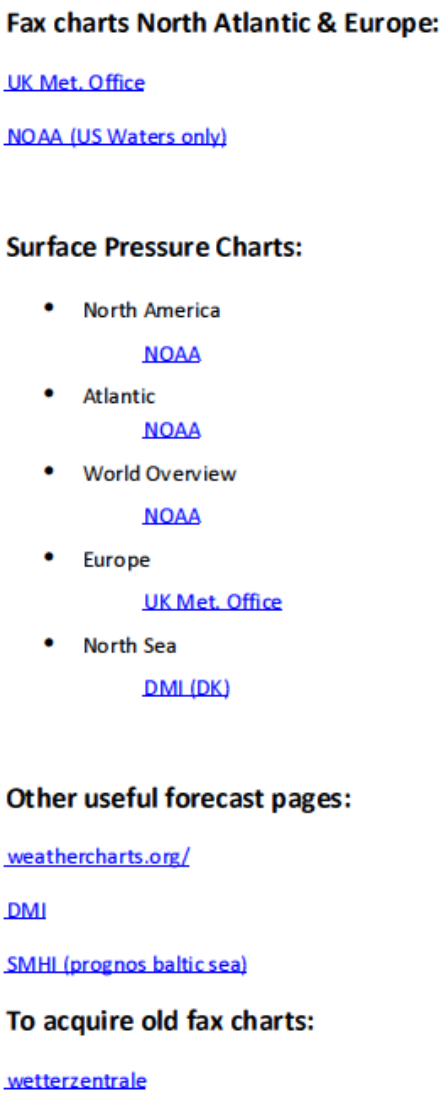
Figur 12; Subject Folder Content - ***"Aboa Mare Portfolio prototype 1.0"***

However, worth mentioning is that the learning objectives originates from the TMS "curriculum for the Degree Programme in Maritime Management".

4.5 Shortcuts and hyperlinks

Inside the folder "Electronical Resources" one find hyperlinks to relevant Internet resources belonging to the specific subject. Quite often lecturers at TMS provide students with addresses to useful Internet pages containing valuable and in- depth information related to the topic.

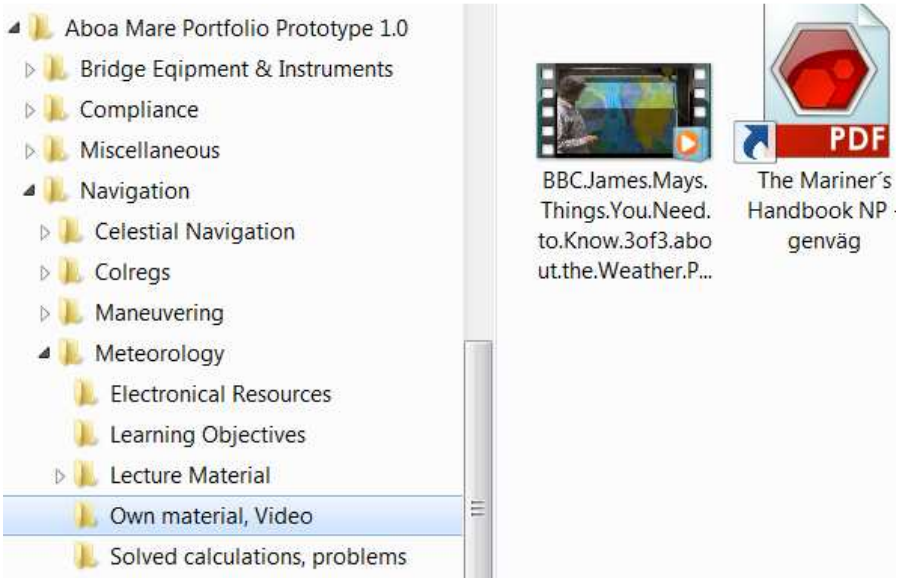
By creating an itemization of these links and create a hyperlink document out of it, the students will get a nice overview of useful resources available online as seen in the meteorology sample example below.



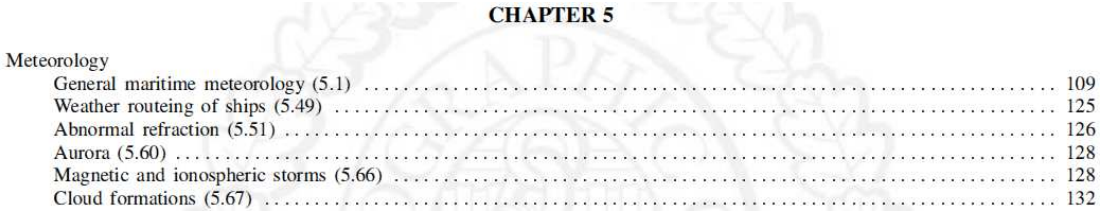
Figur 13; Sample example hyperlinks meteorology - ***"Aboa Mare Portfolio prototype 1.0"***

As mentioned earlier (in the case with mathematics and spherical trigonometry), shortcuts are useful when a certain document belongs to several "subject folders".

In the sample example folder this is illustrated with the *"Mariner´s Handbook"*, which by creating a shortcut from its original source, opens with a normal "double click" on the file. This way the original document only needs to be saved once in the portfolio but can be utilized for several "subject folders".



Figur 14; Sample example of "shortcut" - *"Aboa Mare Portfolio prototype 1.0"*



CHAPTER 5

Meteorology

Figur 15; Screenshot *"Mariner´s Handbook"*, chapter 5, meteorology

5 Recommendations

Recommendations related to "Aboa Mare Portfolio" have been divided between recommendations associated with the implementation into TMS course outline (covered in 5.1), and more general recommendations regarding how the portfolio fits into the TMS overall strategy (chapter 5.2 and 6).

5.1 Implementation Recommendations Aboa Mare Portfolio

The single most important factor to take into consideration regarding a possible implementation of the elective course *"Aboa Mare Portfolio"* into TMS course outline, is its overall cost (including all types of associated costs). This is especially true in today´s economic situation where government subsidies have been cut dramatically over the last years, more or less forcing TMS to save money by cutting internal costs.

From a student perspective this have been evident in terms of the increased workload passed on to the lecturers, resulting in bigger groups during traditional class room lectures, and less "hands on teaching" compared to previous years.

However, in order to compensate for less resources (without the loss of quality) overall effectiveness needs to be increased. And this is exactly what "Aboa Mare Portfolio" intends to be - efficient!

This can be achieved thanks to the fundamental design of the course. The fact that it is the students themselves who creates and builds their personal portfolio allows for minimal costs in terms of "teaching hours". Hence, supervision can be left out except from the actual examination. As for the examination part of the course, our recommendations are to initially only use the grade "pass/ fail".

Furthermore, regarding the examination, and in order to make the course as efficient as possible (i.e. as little time as possible spent by designated examinator), we recommend that an additional elective course is implemented, which single purpose is to complete a "pre checkup" of the portfolio content in order to ensure is up to date (for example hyperlinks working) and course material is covered ("subject folders" filled with content).

This way the examinator only would need to take random samples to ensure the portfolio content is covered and the student can pass the course. The whole idea behind this reasoning could be summarized as ***"Aboa Mare Portfolio - For students, by students"***.

In the same context (*"For students, by students")*, is that the key concept of the course somehow differ from traditional courses as the portfolio is personal, and something the student create for his/ her own purpose. The scope of the course (5 sp) corresponds to 135 hours of work (27 h/ 1 sp), which is an absolute minimum in terms of time required to complete a personal version of the portfolio. Also, the fact that the course is an elective course should result in only those enough motivated would end up taking the course.

Keeping the above mentioned factors in mind we believe the fundamental prerequisite exists to ensure the course can be implemented in a cost efficient way and with minimal supervision (i.e. resources and cost).

In regards to how the "portfolio pre- checkup course" is to be structured several options are possible. Our suggestion is however that an additional elective course should be implemented, available for third year students (third year TMS course outline has traditionally been the year where available courses does not meet the requirement for 55 sp/ year).

This course would exclusively comprise of checking that the content in first and second year student portfolios´ are accurate and up to date (i.e. "subject folders" of those courses completed would be filled with content and hyperlinks working). We estimate this would require about 20 h of work per yearly check- up, and thus be worth an additional 0,75 SP.

Furthermore, on the same theme (*"For students, by students")* we suggest that one thesis per year is devoted to the development of *"Aboa Mare Portfolio"*.

If/ when the *"Aboa Mare Portfolio"* is implemented into the course outline, thoughts and improvement suggestions regarding the content, structure, and pre- checkups will likely arise among those students undertaking the course.

This is also the reason why we have choose to call this first version *"Prototype 1.0"*. It should only be regarded as a first version, with future "upgraded" versions from the yearly thesis project to follow and adjustments to be expected.

For several reasons we believe Peter Björkroth is the most suitable person to be in charge of this project overall. First of all, Mr. Björkroth is already the lecturer for "research

methodology", and thus, able to promote and find students for the yearly "upgrade thesis project".

Secondly, the courses that Mr. Björkroth teaches are distributed in such a way that students meet with him on regular intervals, which in turn allows for Mr. Björkroth to follow up on the process for those students undertaking the course. This is important as if any problem (or improvement suggestions) where to arises that requires responsive actions (perhaps comprehensive enough to the subject of another thesis project?). In such a case Mr. Björkroth (as lecturer of "research methodology") would be the natural person to turn to.

Although Mr. Björkroth is our suggestion to be in overall charge of the project, it is by no means a "one man show". This is especially true if TMS are to fully benefit from this course and gain all possible synergies (more to follow on this topic in next chapter, 5.2 and 6).

Furthermore, our recommendations includes the creation of a "Aboa Mare Portfolio team", and in the same meaning that is the third reason why we believe Mr. Björkroth is the right person to lead this team. He possess the leadership qualifications (soon to be professor within the subject), and clearly has the capabilities to handle big projects. Other members of the team we suggest would be Anton Westerlund and Leif- Christian Östergård.

Anton Westerlund (voted teacher of the year by TMS students 2015) would contribute with in- depth knowledge on the professional subjects and be consulted for improvement suggestion. Also, the courses Anton holds are distributed in the same favorable way as in the case with Mr. Björkroth (meeting the students with regular intervals throughout their education).

5.2 Aboa Mare Portfolio - Market Fit

The fourth reason why we believe Mr. Björkroth is the one to be in overall charge of this project is thanks to his in depth knowledge on business (ranging from marketing to business strategy), in combination with his own experience from universities (both as student, researcher and as employee).

Somehow, it can be considered as the "bread and butter" for any education program to result in employment for students once they have graduated (as this is the fundamental reason why most students chose to study at all). A long term consequences of running an education that does not lead to future employment for the student will most likely result in less applicants and a worsen reputation over time.

However, the opposite is true when an education program is considered to be "good", and students who complete the education gets hired. Such education attracts more applicants, which in turn means a larger selection of candidates to choose from, thus implying that a higher standard of the students enrolled can be achieved, and in the longer run a better reputation (benchmark MIT and Harvard).

The above described "positive cycle" starts with ensuring that the education lead to employment, and in our opinion this should also be the ultimate goal for TMS. As the competition for officers on the Scandinavian market today is tougher than ever, it becomes even more important to secure strategic cadet deals like the one with *"RCCL"* and *"Reederei Nord"* as the available jobs nowadays mostly are found abroad.

The *"Aboa Mare portfolio"* could hopefully be seen as a kind of "support activity" when trying to sign more of this type of strategic cadet agreements. By promoting the portfolio (with adequate marketing material) TMS can argue that their students are better prepared when it comes to meet the demands and related job task challenges than its competitors.

This is where the last piece of the "Aboa Mare Portfolio team" comes into play with TMS onboard coordinator Leif Christian Östergård, who could use the "Aboa Mare portfolio" as a sales argument when trying to sign more cadet agreements during international fairs such as SMM in Hamburg.

For this to become reality, and to position TMS as the market leading Maritime education in Finland, our belief is that a broader strategic diversification is needed other than implementing the *"Aboa Mare Portfolio"*. However, in order to achieve this goal TMS needs to have a long term strategy, of which the *"Aboa Mare Portfolio"* has the potential to be part, and thus could be regarded as a "support activity" for the overall campaign.

6 Discussion

It is absolutely vital for TMS to firmly establish a long term strategy among its board of directors on how to ensure that their education meet the demands of today's and tomorrow's job market.

The reality is that there has probably never been tougher competition for officer jobs on the Scandinavian market than today. M/S Viking Grace had more than 80 applications for their announced vacant officer position, and a local shipping company (not allowed to mention any names) who advertised for personnel to their new buildings, literally drowned in applications.

When pointing this fact out (during unofficial casual discussions) with the TMS board of directors, I have mostly been met with arguments like *"conjuncture have always moved in cycle"* and that *"there has been bad economic times before"*. These arguments are not false, but according to my personal very brief research on the topic there is unfortunately a big difference between today and back in the days.

The extreme amount of applications mentioned above should be seen as a proof of this argument. Another statement that supports this picture is the discussion I had with one of the pilots onboard Viking Grace (again, not allowed to mention any names) who graduated as officer 1987, also considered to be very hard economic times. According to his estimations, about half of those graduating got officer jobs, and the other half had no problem getting hired as deckhands.

Personal estimations regarding corresponding numbers from students starting 2012, is that one (out of about 40) has got an officer job, and around 10 students has working experience as deckhands. As mentioned in the previous section this is somehow the "bread and butter" for all education programs, and if the estimations are correct that leaves TMS in an unfavorable position for the future.

The situation is however not unique to TMS as all the Maritime schools in Finland experience the same situation, and it is unlikely that the situation will change by itself. At the same time hard economic times provides opportunities for those brave enough to invest.

Whether the elective course *"Aboa Mare Portfolio"* should be part of that investment or not is first of all for the board of directors to decide as resources would be needed. The long term benefits from earning the position as leading Maritime Education in Finland should although cover such initial investments.

It is our belief that the assigned "portfolio team", given the adequate resources (time and money in terms of taking a long term approach), in combination with the already established "specialization packages", cadet agreements, and this thesis product (The *"Aboa Mare Portfolio"*) is capable of achieving this strategic diversification resulting in a market leading position and competitive advantage for TMS.

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