

ROLE AND SITUATING OF PRACTICAL TRAINING OF DECK STUDENTS ON TRAINING SHIPS IN PRACTICE OF GDYNIA MARITIME UNIVERSITY

*Bogumil Laczynski*¹

ABSTRACT

According to STCW Convention requirements and Polish Maritime Administration regulations seetime necessary to obtain watch officer license should be minimum 12 months. Gdynia Maritime University within 5 years of study on Navigation Department arranging in summary 4,5 months of sea practice on board 2 training ships “Dar Mlodziezy” and “Horyzont II”. Detailed programs of period of board training will be shown with connection with whole education period of study in Gdynia Maritime University. System of assessments of individual students practiceship called: “OS / AB training”, “Radar training”, “Shiphandling training” as well as contain of Record Book of outstanding period of 7,5 months of training on merchant fleet vessels will be shown in paper. Actual system of education in Poland and Gdynia Maritime University and necessary changes of system due to Bologna Agreement requirements will be presented.

INTRODUCTION

Over the generations, the education of professional officers has undergone many evolutions. Today’s maritime universities, academies and faculties using advances methods of teaching, modern simulators and other sophisticated equipment have to not forget that practical training play invaluable role in officers education. Training ships and on-board practice give students and cadets an opportunity to practice their skills under control of experienced teacher and seafarers.

On AGA-7 of IAMU in Dalian last year was established a new International Working Group named “On-board training” what confirmed importance of training ships in modern seafarers education.

¹ Gdynia Maritime University, Faculty of Navigation, Ship Operation Department

My papers and presentation is my contribution to that initiative and I believe it gives a chance to exchange of experience between IAMU Members.

Plan of presentation:

1. Short presentation of Gdynia Maritime University
2. Actual structure of education on Faculty of Navigation
3. Contents of on-board training
4. Expected changes in field of on-board training in future
5. Conclusions

SHORT PRESENTATION OF GDYNIA MARITIME UNIVERSITY

The oldest Polish Maritime School was established in 1920 just after receiving of Independence after over hundred years of occupation of Russia and Germany. From 1920 till 1930 our Maritime School was located in small town Tczew on Vistula River, 50 km SE of Gdansk / Gdynia. Polish government bought in 1921 first training vessel “Lvov” (ex “Nest” build in Birkenhead in England in 1868) for the price of 247.000 USD.

In 1930 training vessel “Lvov” was replaced by “Dar Pomorza” (build in 1909 in Hamburg, bought for money collected by people from northern part of Poland – Pomorze). This is why the name in Polish means “Gift of Pomeranian”.

In the same year 1930 State Maritime School was removed to special new building campus in Gdynia where we are placed up to these days. In period 1939 – 1945 our State Maritime School was removed to Great Britain (near Southampton) and after II World War in autumn 1945 the School returned to Gdynia and till 1968 was acting as post – secondary technical education college. Our training vessel “Dar Pomorza” was relocated in 1945 from Sweden where was interned during the II World War.

From 1968 school received an position of Higher Education School and name Gdynia Maritime Academy. From 5th of December 2001 Academy was restructuring into Gdynia Maritime University according to Parliamentary Act.

The history of University all the time is strictly connected with training vessels “Dar Pomorza” (actual floating museum) and replaced her in 1982 “Dar Młodzieży” (“Gift of Youth”) [Fig.1 and 2].

From 50thies parallel to tall ships Gdynia Maritime University owned few non-sailing training vessels [Fig.3]. The newest one “Horyzont II” is in operation from 2000 [Fig.4 and 5].



Figure 1. Sailing training ship of Gdynia Maritime University — “Dar Młodzieży”

Owner	Gdynia Maritime University Home port Gdynia, Poland
Call sign	SQLZ
Class of ship	KM1F
Length overall	108.815 m (with the bowsprit) Length of the hull 94.8m
Beam	14.0 m
Height to the upper deck	10.05 m
Height to the main (bulkheads) deck	7.815 m
Maximum average draft	6.37 m (in the sea water)
BRT	2384.85 t
NRT	335.37 t
Empty ship weight	2086.2 t
Displacement	2946.0 t
Height of the foremast	49.5 m
Height of the mainmast	49.5 m
Height of the mizzen	46.5 m
Sail area	3015 sq m
Speed under the sails	The fastest day's run: 264,7 Nm – means 11.29 knots The fastest watch's run: 56.1 Nm – means 14.2 knots; temporary speed 16.5 knots
Auxiliary engine	Cegielski – Sulzer type 8 AL 20/24 2 * 750 PS (552 kW)

Speed under power	economy speed: 9 knots maximum speed: 12 knots
Permanent crew	40 persons plus up to 4 teachers Trainees 120
Fresh water	347 t
Engine fuel (gas oil)	219 t

Figure 2. Details of sailing training ship – “Dar Młodzieży”

Name of the ship	Years of operations	L [m] B [m] D [m]	HP [kw] V [kn]	Comments Cadets capacity
“Turlejski”	1954 – 1985	59,23 9,05 5,70	1100,00 10,00	Ex – fishing trawler 34 cadets
“Horyzont”	1963 – 1999	33,00 6,70 3,40	428,00 10,50	Ex – fishing trawler 26 cadets each
“Zenit”	1965 – 1999			
“A. Garnuszewski”	1974 – 1989	121,90 17,03 7,80	5500,00 12,00	Build for training purposes 120 cadets
“Horyzont II”	2000 –	56,34 11,35 5,33	1280,00 12,00	Build for training purposes 43 cadets

Figure 3. Non-sailing training vessels of Gdynia Maritime University



Figure 4. Research training ship of Gdynia Maritime University – “Horyzont II”

Owner	Gdynia Maritime University Home port Gdynia, Poland
Class of ship	KM Research / Training Ship [1] L2 AUT
Length overall	56.34 m
Beam	11.36 m
Height to the upper deck	6.29 m
Height of the mast from the water line	21,75 m
Draft	3.90 m; 5.33 m including the keel
Total tonnage	1321
Net tonnage	396
Deadweight Tonnage	288
Main Engine	Type 8 S 20 UD-H.Cegielski – Szulcr Power 1280 kW Nominal rotational speed: 1000 rpm
Main Generator	Type: D 2840 LE-DEMP/MA – 3 units Output: 301 kW (each one) – 376 kVA
Auxiliary Generator	Type: D 2866 TE-DEMP/MAN – 1 unit Output: 158 kW
Adjustable Pitch Propeller:	CP 65 WARTSILA, D = 2.1 m
Thrusters	Type: STT 10 LK Schottel Output: 125 kW
Speed	12 knots
Number of persons	57 (including 16 permanent crew members)
Fresh water	60 t
Engine fuel (gas oil)	265,6 t

Figure 5. Details of research training ship – “Horyzont II”

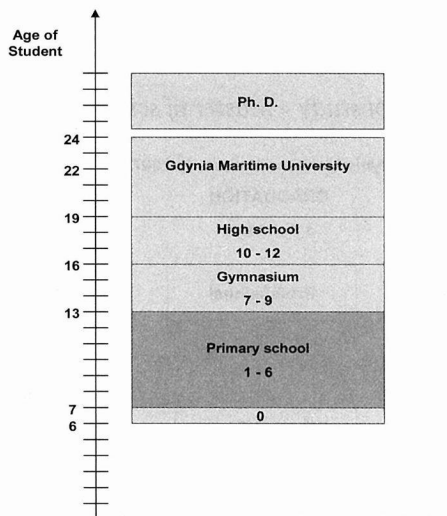


Figure 6. Actual education structure in Poland

The students of our University also undergo apprenticeship on board merchant's vessels in order to require professional qualifications necessary to perform their prospective officer function. On 01 September 2007 there are 4 faculties, 20 specialties and total number of 7500 students.

ACTUAL STRUCTURE OF EDUCATION IN POLAND

From beginning of 90thies after democratic changes in Poland a new national system of education was established based on European standards and Polish educational traditions which replace soviet system throw on in Poland. Actual structure of education in Poland and position of Gdynia Maritime University in whole system is presented in figure 6. All candidates should pass final exams in high schools and results of above presented in percentage on official personal certificate are the base of qualification to any of University / faculty.

Gdynia Maritime University keeps a limit of 150 places for initial year of education on navigational faculty. About 150 cadets on 1st semester only apr.100 students graduated. All hours of study are distributed at it shown on picture [Fig.7].

All graduated navigator receive 3 diplomas [Fig.8]:

- **Master of Sciences** after completing all topics and preparing special diploma work which subject is individually known for every student in VI semester. Full period of study – 5 years,10 semesters. First group of subject (1-14) is minimum required by Polish Ministry of Higher Education for Master of Science course. Second group all subject (15-33) should be compare with STCW Convention requirements.
- **Non-commissioned navy officer in reserve.** Military training contains 400 hours, practically one day a week in 4 first semesters.
- **Watch officer license.**

ON BOARD TRAINING PERIOD

According to minimal STCW requirements all cadets of faculty of navigation should spend 12 months on-board training and merchant fleet vessels. Existed in the past Polish standard model of education required 18 months of sea period was received lowest officer license. Due to lower STCW requirement Polish Maritime Administration minimized obligatory period of sea practice in 1990 to give Polish cadets equal chances on international labor market. Maritime Administration very strictly checked every day of sea practice confirmed in student seamen book.

Ambition of GMU is to guarantee required sea period during 5 years of study.

ELEMENTARY AND SPECIALISTIC COURSES					ON BOARD TRAINING				
Nº	NAME OF THE COURSE	Nº OF HOURS	YEAR	REMARKS	Nº	YEAR	DURATION	P L A C E	TYPE OF PRACTICE
1	PERSONAL SURVIVAL TECHNIQUES	32	0		1	0	0.5 month	TRAINING VESSEL "DAR MŁODZIEŻY"	RATING
2	ELEMENTARY FIRST AID	12	0	Included in MEDICAL TRAINING	2	I	1 month	TRAINING VESSEL "DAR MŁODZIEŻY"	RATING
3	FIRE PREVENTION AND FIRE FIGHTING	18	0	Included in FIRE PREVENTION AND FIRE FIGHTING TRAINING	3	II	2 month	"DAR MŁODZIEŻY"	NAVIGATION
4	PERSONAL SAFETY AND SOCIAL RESPONSIBILITIES	23	0		4	III	0.5 month	TRAINING VESSEL	RADAR - NAVIGATION
5	PROFICIENCY IN SURVIVAL CRAFT AND RESCUE BOATS OTHER THAN FAST RESCUE BOATS	30	II		5	IV	7.5 month	MERCHANT SHIP'S	SHIP'S OPERATING
6	GMDSS	116	III / V	Included in COMMUNICATION	6	V	0.5 month	TRAINING VESSEL	MANOEUVRING
7	RADAR OBSERVER	126	III / V	Included in ELECTRONIC NAVIGATIONAL AIDS	7				
8	ARPA	50	V	Included in ELECTRONIC NAVIGATIONAL AIDS	8				
9	MEDICAL FIRST AID	21	V	Included in MEDICAL TRAINING	9				
10	ADVANCED FIRE FIGHTING	36	V	Included in FIRE PREVENTION AND FIRE FIGHTING TRAINING	10				
					TOTAL		12 MONTHS		

Figure 9. Plan of on-board training and curses during study.

Practically every student after completing of 10th semester is able to present to Maritime Administration Office 12 months of on-board training and practically can start with officer carrier after University’s graduation. University offered 4,5 month on training ships and minimum 7,5 month on merchant fleet vessels. [Fig. 9]

Few years ago Faculty of Navigation had to cancel first period of on-board training – 2 weeks just before starting of first semester. In this period cadets completing 4 obligatory courses staying in campus without embarking on one of training vessel. During first and second semester what is the most difficult for new cadets about 20-30% have problem to pass academic basic subjects (mathematics, physics and chemistry). Natural academic selection eliminate dozens of cadets and cost of initial on-board training, seamen books, required courses etc. were decreasing rapidly. [Fig. 10]

First on-board training about 1 month is in summer after completing 2 first semesters.

Second period of on-board training is placed after IV semester of study. Long 2 month voyage after completing most of academic and professional subject with assist of few professors there is practical confirmation of knowledge of seafarers.

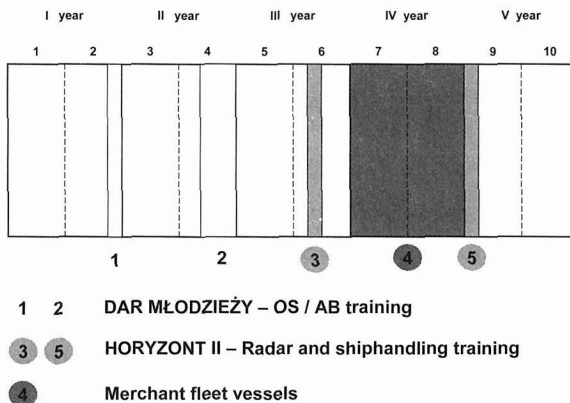


Figure 10. Schedule of on-board practices during studies

Third period of on-board training there is 2 weeks training on board training ship “Horyzont II”. This is professional radar/bridge practice. Student of navigational faculty are able after 2,5 month of training to receive O/S (ordinary seaman) license in Maritime Administration Office. What give them advantage to find cadet position on merchant fleet vessels with obligations and salary of O/S. Many shipowners have no cadets positions on Minimal Safe Manning Document and O/S position help to locate cadets on board.

Forth period of training beginning in June and finish in October next year – there is practically 15 consecutive months. This is period for boarding for one/two or sometimes 3 different ship to cumulate total period up to 8-8 months (student study calculate all written in seamen books periods/days to be sure that in summary is minimum 11,5 months knowing that on 5 year of education University training guarantee one more

5. MANOEUVRABILITY ON-BOARD TRAINING

Period of on-board training: **semester IX**
 The place of on-board training: **training vessel Horyzont II**
 Duration of on-board training: **2 weeks**

A. General program – 112 hours (14 days × 8 hours)

1. Complex watchkeeping and port watchkeeping as it is described in ‘On Board Training Record Book For Deck Cadets’ under supervision of watch officers.

The subject of exercise

Manoeuvring – (58 hours)	
1.	Individual manoeuvring: Preparing a vessel to manoeuvring.
2.	Familiarising and checking ship’s manoeuvring information.
3.	Reporting to Port Captain, VTS station, etc.
4.	Berthing and mooring.
5.	Unmooring and unberthing.
6.	Leadership in manoeuvring on fore and aft.
Assisting in exercise – 54 hours.	
1.	Individual watchkeeping procedures. Watchkeeping / Preparation to watch / Take over the watch.
2.	Leading the vessel in trajectory using every available navigational equipment.
3.	Approaching to anchorage.
4.	Dropping the anchor and heave up the anchor.
5.	Change the watches.

1. Mooring and unmooring proceed during the daytime. Exercises are lead by each trainee in turn after checking manoeuvring theory. Trainees are obligated to use English commands during the manoeuvring.

2. Trainees drop anchors and heave up by themselves under the supervision of watch officers.

Figure 11. Example of general program of fifth on-board training

fifth on board period called “maneuvering training” in 2 weeks periods in groups of 43 cadets (max. capacity of training ship “Horyzont”) [Fig. 11].

Everyone from 5 periods of on-board training has special program as well as training record book (for merchant fleet vessels). On Board Training Record Book includes sea training tasks for deck cadets. During this training cadets gains professional skills and experience necessary in the work as a watchkeeping officer. On board training skills gained according to the program included in the Training Record Book fulfill the minimum requirements for certification as an officer on charge of navigational watch. During sea training the cadets learns to combine theoretical knowledge from Maritime University and practice. It allows the future watchkeeping officer to learn the job in modern and automated seagoing ships. Sea training properly integrated with theoretical education is necessary for an officer of a contemporary ship. Practical training should be compared under supervision of the master, chief officer and designated supervising officers. Properly filled Training Record Book is evidence that the trainee has achieved professional skills and experience required in the standards of competence according to the Code A of Convention STCW 78/95. That is why the Training Record Book should be precisely filled up. The Training Record Book will be submitted to the Polish Maritime Administration, where the trainee applies for the watchkeeping officer’s certificate [Fig 12].

Additionally Gdynia Maritime University required 8 sets of additional records exactly checked by selected professors of professional subject:

- Navigation
- Celestial and Satellite Navigation

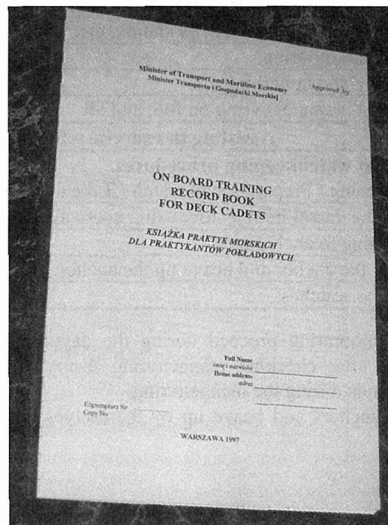


Figure 12. On board training record book

- Colreg
- Meteorology
- Bridge / deck equipment
- Ship construction and stability
- Cargo handling
- Shipmanagement

Student received marks as a acceptance and confirmation of passing required topics, subject, reported from every type of vessels. Before on-board period professor informed student and gave written instructions about contents of report and their expectation.

EXPECTED CHANGES IN GDYNIA ON-BOARD TRAINING SYSTEM

We all in Gdynia Maritime University are very satisfy with actual existing system of on-board training 4 month on training ship and 8 month on merchant fleet. Polish Maritime Administration understands above as optimal standards also in 2010.

Unfortunately due to Bologna Agreement which makes obligatory of 3 phases of higher education Gdynia Maritime University is pressed by Ministry of Higher Education to change actual 5 years Master of Science course for 2 steps: 3,5 years Bachelor of Science and 1,5 years Master of Science course. The 3rd remain course doctor of science course [Fig. 13].

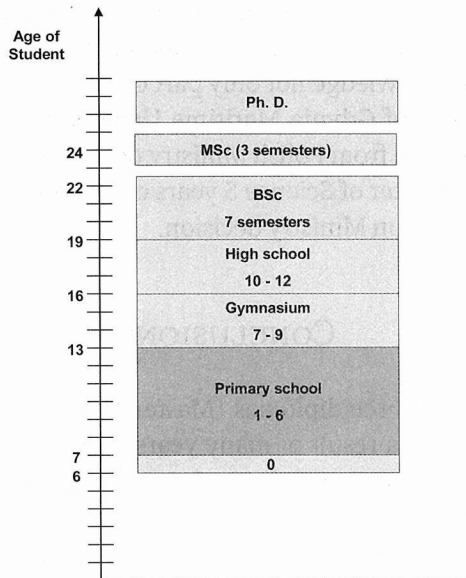


Figure 13. Education structure after implementation of Bologna Agreement.

The new prepared detailed program of first step unfortunately gives no chance to cumulate all necessary knowledge on in future officer on management level and obligatory 12 months on sea practice what is realized in actual Master of Science 5 years schools [Fig. 14]

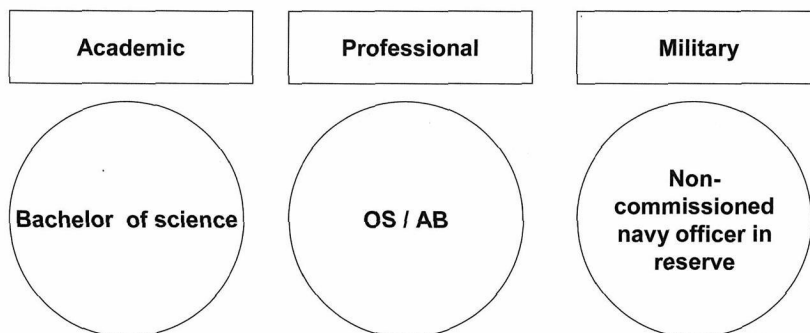


Figure 14. Certificates of graduated deck students of Bachelor of Science course after implementation of Bologna Agreement.

Young officers graduated as ‘final product’ of Gdynia Maritime University should have full knowledge of navigation, shipbuilding, ship stability and other subjects. It is not realistic to divide above subjects in two separate courses for Bachelor of Science (7 semesters) and Master of Science (3 semesters). Proposition of finish the first course on operational level only and the second course on management level is completely not realistic in maritime sector. Nobody agree in Europe and Poland to divide for example medical studies for two different courses. Graduated doctor of medicine should have professional completely knowledge not only part of them.

President and all staff of Gdynia Maritime University are still permanently and desperately acting to receive from Polish Ministry of Higher Education acceptance for keeping one integrated Master of Science 5 years course, but as a State budget University we are fully contingent on Ministry decision.

CONCLUSIONS

1. Existing system of three diplomas (Master of Science, Watch officer, non-...) and 5 years study period is a result of many years of experience of Gdynia Maritime University teachers as well as practiced captains and ship owners.
2. Distribution of time on-board training and rest of study is optimal [Fig. 15].
3. Existing system allowed young officers developed professional carrier without 1,5 year brake for the second stage of academic education. This period of Master of Science study cuts the links with employer and regress practical skills.

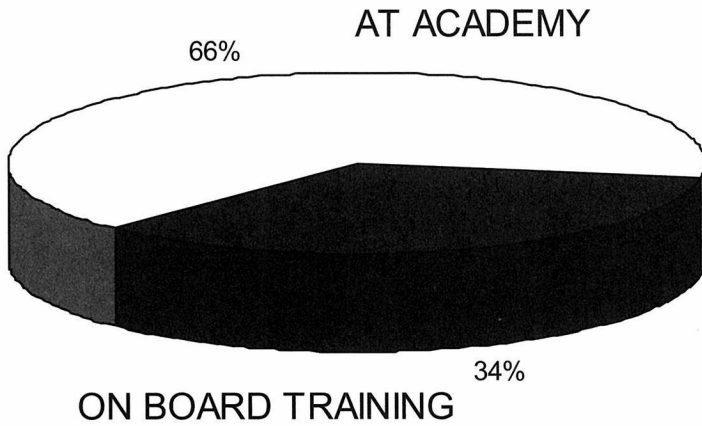


Figure 15. Distribution of on-board and at academy periods in weeks on Master of Science course on Deck department

4. Graduated officer from Gdynia Maritime University has a privilege to not participate in course preparing for Chief Officer examine in Polish Maritime Administration. Other officers without academic background have to take part in 15 weeks Chief officer special course.