# Improving MET Quality: Relationship Between Motives of Choosing Maritime Professions and Students' Approaches to Learning

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ABSTRACT: Question of improvement quality of studies is a continual hot issue in every educational environment. In maritime education and training, this question is especially important because of international regulations of maritime professions. Quality of studies is a multidimensional and complex phenomenon. It is influenced by wide range of factors: from labour market and current educational policy to individual students' efforts and characteristics. Motives of choosing maritime profession and approaches to learning are characteristics of an individual person. Quality of studies is influenced by students' approaches to learning: deep approach to learning is related with higher quality of studies, surface approach – to lower quality. On the other hand approaches to learning could be influenced by motives of choosing profession, which affect entire professional career planning. Both phenomena are important for the improvement of quality of studies.

The relation between motives of choosing maritime professions and students' approaches to learning in the context of quality of studies are under investigation in this paper.

## 1 INTRODUCTION

Increasing the quality of maritime studies is a relevant problem, which may be studied in different aspects, and one of them is the study of the students' approach to learning as the individual students' characteristics. Quality of studies is a multidimensional and complex phenomenon (Heywood, 2000; Bartuseviciene, Rupsiene, 2010). The impact of the students' approach to learning on the results of studies was investigated in the works of F. Marton and R. Säljö, (1976), P. Ramsden (2003), N. Petty (2004), G. Pask (1976), N. Entwistle, P. Ramsden (1983). The authors who had investigated the process of studies determined that there were two different students' approaches to learning that were named by the scientists as deep and surface ones. According to those authors different approaches to learning determine different results of learning, therefore, investigating the students' approaches to learning and determining the prerequisites of deep approach to learning that leads to better results of studies, it is possible to find an answer to the question about the increasing of the quality of studies.

J. Biggs (1987a) expanded F. Marton ir R. Säljö (1976) theoretical model by stating that the approach to learning consists of two components: motive of learning and strategy of learning which is understood as a whole of the ways and the habits of learning (Table 1). The construct of students' theoretical approach to learning is based on the idea that the learning motives of students determine the strategies of learning and depend not only on personal characteristics of students but also on learning context and content of learning tasks (Biggs, 1987a). J. Biggs (1987b) created SPQ (*Study Process Questionnaire*) to determine the approach of students to learning, learning motives and strategies, and later on it was revised to a shorter one with 20 questions, R-2F-SPQ (The revised two-factor study process questionnaire*)* (Biggs, Kember, Leung, 2001).

Table 1. Motives and strategies as complex components of the approach to learning (Biggs, 1987b).

| Approach | Motive | Strategy |
|---|---|---|
| Surface (SA) | Surface motive (SM) is to meet requirements minimally, a balancing act between failing and working more than is necessary | Surface strategy (SS) is to limit target to bare Essentials and reproduce them through learning |
| Deep (DA) | Deep motive (DM) is intrinsic interest in what is being learned; to develop competence in particular academic subject | Deep strategy (DS) is to discover meaning by reading widely, inter-relating with pervious relevant knowledge, etc. |

Analysing the possibilities how to improve MET efficiency of studies it is urgent to investigate the motivation concept of profession choosing and its relation with the approaches to learning that is the prerequisite of high efficiency of studies.

The initiator of the theory of modern choice of professions is considered by F. Parson, who founded the first professional consulting bureau in 1908 in the USA. He formulated the main principles of successful profession choosing (Parson, 1909):

– good self-cognition;
– good knowledge of peculiarities of the chosen profession;
– ability to correctly combine this knowledge and take the right profession solution.

R. Hoppock (1950) explains choosing profession via the satisfaction of need. The essence of his theory is revealed by ten postulates which speak about the fact that a man chooses his profession to satisfy his needs. According to R.Hoppock, choosing profession is being improved when a man starts to imply that the future profession will better satisfy his needs.

J. Holland's theory (1959) is popular among the theoretical and practical people very much, which states that personalities can be divided to six types that were named as realistic, researcher's, artistic, sociable, initiative and normative. In J. Holland's opinion people tend to look for such labour activity environment, where they might express themselves. He states that similar people choose similar professions, but satisfaction from work, success and stability depend on how the personality matches to the environment (Holland, 1966).

The most striking representative of the development model of choosing profession is Donald Super (Super, 1957). The scientist states that by choosing profession a man essentially chooses one of the main means how to express his personal "ego". Professional behavior of a person is a way to implement his professional self-image.

The background of D. Krumboltz theory is learning (1979). According to his statement, there are 4 groups of factors important for the professional self-determination: *genes* – inherited properties, limiting learning possibilities and choosing profession; *environment* – social, cultural, political, economical, natural conditions; *knowledge of learning* – priority development of professions, distribution of certain works, as each individual person has got unique learning knowledge it makes impact on profession choosing; *task fulfillment skills* – there come out task fulfillment standards and values, labour habits, cognition processes and emotional reactions.

According to prof. L. Jovaiša (1999) there are the following motivation factors of profession choosing: social (social state of parents, vicinity of educational institutions), economical (payment for work), psychological (interests, turns, values, intellect and character), health.
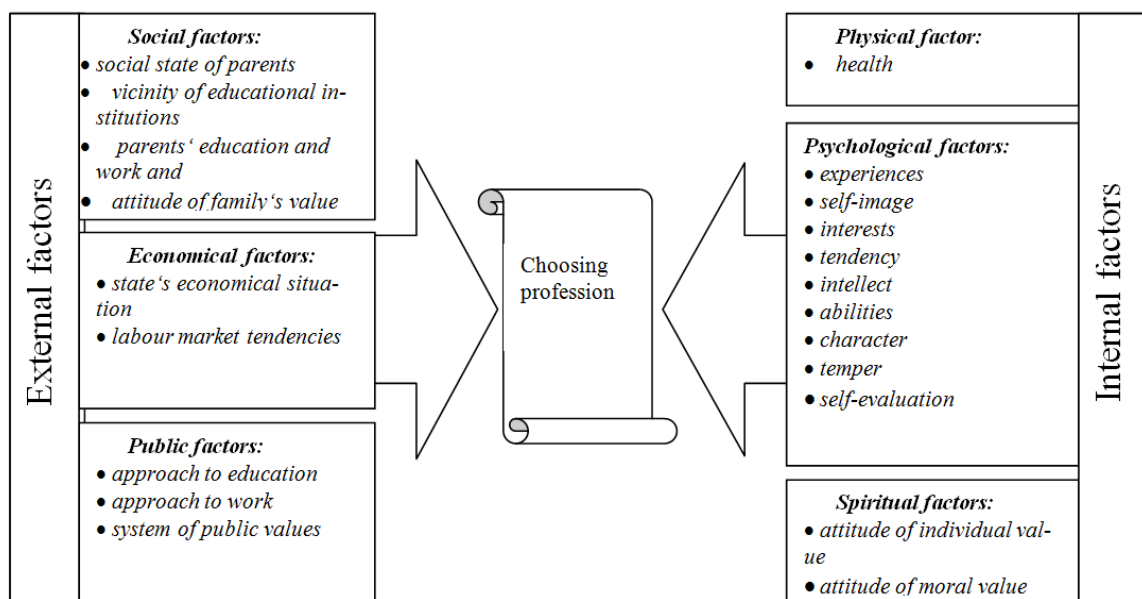


Figure 1. Factors, influencing choosing of profession.

The discussed theories should help to understand the factors that determine the solution of profession choosing process. Summarizing scheme of factors, influencing choosing of profession is shown on figure 1.

Tasks of presented investigation are:

– Investigate the motives determining the choice of seafarer's profession.
– Diagnose the individual characteristics of students, their approach to learning that determines the efficiency of studies.

Determine the relations between the motives and approaches to learning.

## 2 THE RESEARCH METHODOLOGY

### 2.1 *The sample size*

Sample of research was made of full-time students of maritime specialties' studying at Lithuanian Maritime Academy. Making the samples of research the voluntary principle was followed – all the students that were present on query days at school and who expressed their wish were included. Such way of sampling is considered reliable.

In December 2010 – January 2011 233 students from all courses were interrogated (95 % of all maritime specialties' students): first year students – 39,1 percent, second year students – 33,0 percent, third year students – 19,3 percent and fourth year students – 8,6 percent. The sample consisted of 145 students from Marine Navigation study program (62,2 percent) and 88 – Marine Engineering study program students (37,8 percent).

### 2.2 *The research instrument*

The questionnaire survey was used to collect data in order to examine and verify theoretical and exploratory insights about relationship between motives of choosing maritime professions and students' approaches to learning. The originally developed questionnaire consisted out of 117 questions. The Revised-Two Factor-Study Process Questionnaire (Biggs, Kember, Leung, 2001) translated into the Lithuanian language, adapted, and validated was used as a part of the originally developed questionnaire.

The validity of the R-2F-SPQ questionnaire was checked by confirmatory factor analysis, using VARIMAX method of co-ordinate turning. High KMO ratio (0, 838) and the meaning of Bartlett test (p=0,000) confirmed the suitability of data for factor analysis. During factor analysis four factors were pointed out corresponding subscales of Biggs questionnaire, where the factor weights (L) of compo-

nents are rather high: from 0,543 to 0,817. Four pointed out factors explained 52,23 percent of variance – such percentage is satisfactory in social sciences (Pett, Lackey, Sullivan, 2003).

### 2.3 *The data analysis*

The data acquired during the research were analysed using statistical analysis methods (using SPSS for Windows program, $13^{th}$ version). Analysing quantitative data methods of descriptive statistics (data distribution percents were calculated), non-parametric tests (Mann-Whitney and Kruskal-Wallis tests), factor analysis, correlation tests using **Spearman's rho** were applied. For reliability analysis Cronbach's Alpha and Corrected Item-Total Correlation coefficients were used.

## 3 RESULTS OF INVESTIGATION

### 3.1 *Analysis of motives of seafarer's profession choosing*

In order to clear out the motives of those young people who chose seafarer's profession the 47 motives were investigated. Having made the analysis it was determined that there were the following important and very much important motives for profession choosing: the seafarer's work is responsible very much (89,7 percent); seafarer's profession is perspective (85 percent); seafarer's profession is masculine (84,2 percent); it is possible to earn well (81,6 percent); seafarers can make career (79 percent); seafarer's work is rather interesting (76,8 percent); seafarers can easily maintain their families (76 percent);74,4 percent wished to get higher education; 74,3 percent of respondents dream to become a captain/navigator or chief mechanic; Seafarers are considered as good specialists (73, 3 percent); seafarer's life is full of adventures (72,9 percent); seafarer's profession is very attractive (70,8 percent); seafarer's profession is one of the most perspective for those who live in seaside region (60,9 percent). 52,6 percent of students who participated in the research considered that when choosing profession an important or very much important motive was the universality of this profession, that after acquisition of seafarer's profession it was possible to work at sea or on shore.

The fact that the respondents purposefully chose seafarer's profession assessing different aspects can be seen in their answers to the statements but only a small part of respondents managed to answer: „I wish to acquire speciality which I am studying but I do not connect my life with the sea" (only 29,2 percent completely or partially agreed to it) and „I wished to study other speciality but I did not manage

to enter the institution" (27,9 percent), „I wished to obey my parents" (26,6 percent).

We may come to a conclusion that the motives of choosing profession of the great majority of young people were determined by economical (good salary, possibility to assure social welfare of the family, career possibilities and etc.), social (wish to acquire education, seafarer's work is responsible, seafarers are assessed as good specialists, it is one of the most perspective professions for those who live in seaside region and etc.) and psychological (seafarer's work seems to be interesting, dreams to become a captain or chief mechanic and etc.) factors.

Factor analysis was applied when analysing the students' motivation of choosing seafarer's profession. This method of analysis allows grouping a big quantity of variables, therefore, it was necessary to adapt it for the conditions of this research, as in the questionnaire there were submitted 47 motives of choosing seafarer's profession. When making factor analysis, first of all we had to convince ourselves that the scale of motives is a reliable measuring device and that it is suitable for factor analysis (KMO coefficient 0,852; Barlett's test p meaning - 0,000). Having made factor analysis out of 47 motives of choosing seafarer's profession, 12 factors were picked out that were treated as summarized motives of choosing seafarer's profession (Table 3). The weight of a factor is the correlation coefficient of a factor to the variable. Factor weight meanings are interpreted like all meanings of correlation coefficients. Factors are disclosed by those variables that compose it, the factor weight of which (L) comply with the condition $L > 0,6$. Therefore, when analysing the data, most of the attention is paid to those variables namely.

Table 3. Factor groups of seafarer's profession choosing motives.

| Name of a factor | Factor making weights ($L_n$) |
|---|---|
| Factor 1. Aptitudes and interests motives | L1 |
| Wished to sail at sea | 0,807 |
| Sea always attracted | 0,792 |
| From childhood was interested in ships | 0,789 |
| Liked everything that was connected with sea | 0,747 |
| Wished to try living at sea | 0,729 |
| Seafarer's profession was attractive | 0,630 |
| Always liked to travel by ships, ferries | 0,622 |
| Seafarer's profession seemed the most suitable | 0,611 |
| Sea romantics fascinated | 0,593 |
| Seafarer's work seems to be interesting | 0,584 |
| Was always fascinated by seafarers as strong and brave people | 0,542 |
| Factor 2. Career possibilities and economic benefit motive | L2 |
| Think that seafarers can make career | 0,789 |
| Seafarer's profession is perspective | 0,722 |
| Think that it will be easy to maintain family well | 0,635 |
| Seafarer's work is very much responsible | 0,611 |
| Factor 3. Accidentally chosen profession motive | L3 |
| Wish to acquire speciality that they learn but do not connect their life with sea | 0,783 |
| Seafarer's profession was chosen accidentally | 0,777 |
| Wished to study other specialities but did not manage to enter the institutions | 0,725 |
| Friends suggested | 0,637 |
| Wished to obey parents | 0,621 |
| Wanted to avoid military service | 0,592 |
| Parents forced | 0,553 |
| Factor 4. Influence of relatives motive | L4 |
| Have got a lot of familiar seafarers | 0,783 |
| Have got familiar seafarers who might find job in good companies and good salary | 0,737 |
| There are seafarers in the family and they wanted to continue family traditions | 0,700 |
| Close people advised | 0,630 |
| Parents forced | 0,533 |
| Factor 5. Emotional attractiveness motive | L5 |
| Lover of nature | 0,595 |
| Lithuania needs seafarers | 0,590 |
| Liked Seafarer's clothing | 0,549 |
| Seafarer's profession is not ordinary | 0,516 |
| Factor 6. Benefit from profession motive | L6 |
| Will be able to travel round the world free of charge and see different countries | 0,747 |
| Seafarers are honoured in our society | 0,532 |
| Factor 7. Masculine profession motive | L7 |
| Seafarer's profession is very much masculine | 0,778 |
| Women love seafarers | 0,731 |
| Factor 8. Valuable statements motive | L8 |
| Sea teaches to be human being | 0,692 |
| Seafarer's profession is one of the most perspective for those who live in seaside region | 0,509 |
| Factor 9. Wish to acquire education motive | L9 |
| Wished to get higher education | 0,788 |
| Easy to enter maritime specialities | 0,617 |
| Factor 10. Professional possibilities motive | L10 |
| Having a speciality that study, they think they will be able to work at sea and on shore | 0,770 |
| Think that it will be easy to find a job | 0,571 |
| Seafarer's profession is one of the most perspective for those who live in seaside region | 0,500 |
| Factor 11. Economic benefit motive | L11 |
| Think that they can earn very well | 0,720 |
| Factor 12. Planning to work in maritime business motive | L12 |
| Connect their future with shipping business | 0,745 |

Summarising we may state that maritime profession choosing is determined both by internal and external factors. During factor analysis the following factors are picked out: „Aptitudes and interests motives" and „Emotional attractiveness motive" correspond to internal factors psychical motives picked out in theoretical model. But factor „Valuable statements motive" and „Masculine profession motive" correspond to internal factors spiritual motives.

Profession choosing was determined by economic motives of external and internal factors. It can be

seen by factor groups picked out during the research: „Career possibilities and economic benefit motive", „Economic benefit motive", „Professional possibilities motive", „Planning to work in maritime business motive". Factor groups: „Wish to acquire education motive " and „Benefit from profession motive" show that social factors of external factors were very much important in choosing seafarer's profession. Social factors of external factors predetermined choosing seafarer's profession as well. This is confirmed by the picked out factor groups: Influence of relative motive and accidentally chosen profession motive.

### 3.2 Relation between the motives of choosing seafarers' professions and approaches to learning

In order to determine the connection between the motives of choosing seafarer's profession and approaches to learning, it was decided to join each factor defining variables into quantitative variables by aggregation. To assess whether the items which were summed to create aggregated variable, formed a reliable scale, Cronbach's alpha was computed. The internal consistency reliability analysis indicating the consistency of a multiple item scale appropriate for summation of variables to the aggregated variable can be done by using Cronbach's alpha coefficient (Leech, Barrett, Morgan, 2008). It was discovered, that scales of six motives can be used for summation, because Cronbach's Alpha of items of that motives were bigger or close to 0,7 (Table 4).

Table 4. Aggregated variables – factors of motives.

| Number | Aggregated variables – factors of motives | Cronbach's Alpha |
|---|---|---|
| 1 | Aptitudes and interests motives | 0,914 |
| 2 | Career possibilities and economic benefit motive | 0,779 |
| 3 | Accidentally chosen profession motive | 0,840 |
| 4 | Influence of relatives motive | 0,753 |
| 6 | Benefit from profession motive | 0,696 |
| 5 | Emotional attractiveness motive | 0,677 |
| 7 | Masculine profession motive | 0,551 |
| 8 | Valuable statements motive | 0,410 |
| 9 | Wish to acquire education motive | 0,405 |
| 10 | Professional possibilities motive | 0,452 |

Six new agregated variables, named according to motive's names, were used for correlation analysis of motives of choosing profession and approaches to learning. For correlation analysis Sreaman's coefficient was used, because scores of variables were not normally distributed (Morgan, Leech, Gloeckner, Barrett, 2007).

The correlation values of Spearman's rho presented in the table 5 show statistically significant correlations of Deep Approach scores and emotional attractive-

ness, aptitudes and interests, benefits from profession motives. This can be understood, that students study more effectively if they have chosen the profession based on their emotions and interests, and understand advantages of chosen profession.

Table 5. Spearman's rho coefficients of statistically significant correlations of Deep Approach to studies and motives.

| Number | Aggregated variables – factors of motives | Spearman's rho | p |
|---|---|---|---|
| 5 | Emotional attractiveness motives | 0,316 | 0,000 |
| 1 | Aptitudes and interests motives | 0,313 | 0,000 |
| 6 | Benefits from profession motives | 0,186 | 0,005 |

The analysis showed statistically significant correlations (p=0,000) of Surface Approach with motives of choosing profession in two cases:

1 with Accidentally chosen profession motive (Spearman's rho=0,432);
2 with Influence of relatives motive (Spearman's rho=0,282).

The investigations can lead to the conclusion that if student chooses the profession accidentally or the decision is influenced by relatives, student uses Surface Approach to learning and his study effectiveness in this case is not very high.

Summing up the results of approaches to learning and motives of choosing professions correlation analysis, it can be stated, that understanding of mentioned relations can directly influence quality of maritime education and training: students' emotions, interests, and understanding of the advantages of maritime professions lead to higher quality of studies, but accidental or influenced by relatives decision to become a seafarer lead to less qualitative studies. It was found, that first year students more than upper course students and female students more than male students are oriented towards Deep Approach to learning.

Statistically proved conclusion can be done that maritime education and training institutions have to explain young people all merits of maritime profession and show possibility for them to find emotional attractiveness and realization of their interests if they will choose maritime professions. In this case, according to the results of the research the studies will be effective and quality of MET will increase.

## 4 CONCLUSIONS

The motives of choosing profession of the great majority of young people were determined by economical (good salary, possibility to maintain family welfare, career possibilities and etc.), social (wish to

acquire education, seafarer's work is responsible, seafarers are valued as specialists, seafarer's profession is one of the most perspective for those who live in seaside region and etc.) and psychological (seafarer's work seemed to be very interesting, dream to become a captain or chief mechanic and etc.) factors. Both external and internal factors predetermine the choice of seafarer's profession.

The results of correlation analysis of motives of choosing maritime professions' and approaches to learning showed relations of Deep Approach with students' emotions (Spearman's rho=0,316, p=0,000) interests (Spearman's rho=0,313, p=0,000) and understanding of the advantages of maritime professions (Spearman's rho=0,186, p=0,000) that means if student chooses profession following mentioned motives, his studies are of higher quality. Relations of Surface Approach with accidental (Spearman's rho=0,432, p=0,000) or influenced by relatives (Spearman's rho=0,282, p=0,000) motives to take decision to become a seafarer show less qualitative studies.

It is clearly proved statistically that if student chooses profession following his emotions, interest and understanding of the advantages of professions, his studies are more effective, than if he chooses profession accidentally or influenced by relatives. It was found, that first year students more than upper course students and female students more than male students are oriented towards Deep Approach to learning. The conclusion can be done that maritime education and training institutions have to explain young people all merits of maritime profession and show possibility for them to find emotional attractiveness and realization of their interests if they choose maritime professions. In this case, according to the results of the research the studies will be effective and quality of MET will increase.

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