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Validation of the MarTEL Test: the Importance of Validity of the Test and the Procedure for Validation in MarTEL

Abstract

This paper reports on the development of the EU funded Leonardo project called MarTEL. MarTEL concerns the development of a novel set of Maritime English Language Standards. MarTEL is designed to test mariner's Maritime English through a series of online tests designed to cater for all types and ranks of seafarers. A number of major piloting exercises have been carried out with the target groups, viz., cadets, officers and senior officers within the MarTEL partnership. The paper also outlines the reason for MarTEL and reports on one of the methods used to evaluate its value to the target groups.

The subject of validity has been the core of MarTEL development activities for any given test. Validity is the appropriateness of a given test or any of its component parts as a measure of what it is expected to measure. A test is said to be valid to the extent that it measures what it is supposed to measure. Furthermore, test-developers, not only have to ensure that the material included in a test is appropriate for the purpose for which it is intended, but also to ensure the results are accurate. The paper discusses the measures taken to make MarTEL tests reliable and valid in terms of content, requirement, structure, range, depth, assessment and professional judgement. The reliability is ensured through the design of specifications for each MarTEL test after several pilot exercises to ensure the consistency of the test through the application of 'reverse engineering' development methodologies.

Key words: Maritime English, test validity and reliability, MarTEL

1. Introduction

It is acknowledged by all concerned that effective knowledge of English at sea and in ports is a must for all seafarers responsible for safety and security of the ship, its crew and its passengers. Yet as evidenced by recent reports, articles and papers particularly accidents reports by major and reputable investigation authorities that the standard of English of some seafarers is so bad that they have difficulty communicating not only between themselves but also with agencies outside the ship (Alert, 2007).

Investigations into the human factor regarding disasters at sea, which focused on communication behaviour according to Trenker (2007) revealed that one third of accidents happen primarily due to insufficient command of maritime English. He reported that in VTS (Vessel Traffic Service) controlled areas for instance, poor communicating of relevant factors contribute up to 40% of collisions involving the human element, most of them caused by failures in radio communication even in routine conversations, but some also through face-to-face communication deficiencies.

The studies by Trenker (2007) is in line with the authors own findings (Ziarati, 2006). A review of some 300 accidents revealed that standard of English of seafarers is one of the two main causes of accidents and incidents at sea and in port (Ziarati, *ibid*). What is so alarming is that while accidents at sea and in ports are decreasing, accidents due to human failure, particularly due to poor standards of English by seafarers are on the increase (MarTEL, 2007, Ziarati. 2009). This is attributed to increasing use of multi-lingual crew and lack of competence in Maritime English.

Trenker (2007) reports 80% of all SOLAS vessels are presently crewed with multilingual personnel who, for diverse reasons, are frequently unable to render the maritime English skills required. It has been argued that in order to improve management, operation and/or support on board vessels, the amount of paperwork in the form of procedures, leaflets, questionnaires, e-mails and checklists are on the increase, stating that all have come about in response to an earlier accident or incident at sea or in ports.

To improve the standard of Maritime English, the IMO in 2001 introduced the SMCP (Standard Marine Communication Phrases). The aim was to get around the problem of language barriers at sea and to avoid misunderstandings which can cause accidents. The question often asked is SMCP used at sea? (Alert 2007). The problem is that the IMO does not carry out inspections to see if the STCW is correctly implemented let alone monitoring the implementation or usage of SMCP at sea or its effective application.

While SMCP has provided a sort of survival kit, it only includes the essential safety related communication events where spoken English is required. The IMO in introducing the SMCP neglected two very important considerations. The need for competence in English language by all seafarers and a means of monitoring and measuring this competence, and second, that without competence in English language and reliance on memorising SMCP, when emergencies do occur psychology plays an important role viz., if these marine communication phrases are not learned in a context of English language environment, then at the time of panic, there are no assurances that they are recalled correctly and this has been observed in several recorded accidents (Ziarati, et al, 2009). Valerie Short states that while STCW95 contains guidelines to watch keepers stipulating that standards of English of seafarers should be 'adequate' (whatever this means!) for general OOW duties, yet she notes that the STCW code does not provide indications of English proficiency levels to be achieved.

To date the response to poor English competences has been reactive and IMO practice as has been the case in the past been often a response to specific disasters, see for instance, SOLAS, MARPOL, etc. The interest in Maritime English was renewed in a recent meeting of the IMO MSC 2006 meeting when the UK delegation supported by several other countries warned the Committee of severe consequences if action is not taken to remedy the poor standards of Seafarers' English. There were discussions at the workshop meetings at the event that what is needed is to develop a set of comprehensive standards for Maritime English and provide a means of assessing English proficiency level of seafarers. The assessment system should also test the English skills and not maritime knowledge of a seafarer. It should be a vocational in nature and unlike conventional testing system should be skilled based with not too much reliance on grammar. There was a strong feeling that English should be taught in the context of maritime English as suggested by Loginovsky (2002).

2. IMO Requirements

2.1 Speaking

- Use the IMO SMCP and use of English in Oral form

- Communicate with other ships, coast stations and VTS centres
- Communications are clear and understood
- Ability to establish and maintain effective communications during loading and unloading
- Ability to explain to ensure reliable detection of defects and damage
- Effective communications on board and ashore
- Radio communications are established and correct communications procedures are followed at all stages of SAR operations”

In effective writing, the IMO states that the communication must be clear and unambiguously given and received:

2.2 Writing

All above as for Speaking but in particular:

“Table A II/1

- Use the IMO SMCP and use English in Written form
- Adequate knowledge of English to enable the officers to use English publications and to perform the officer’s duties (STCW and IMO Model Courses).”

Transmission and reception of messages are consistently **successful**, communication recorded are complete, accurate and comply with statutory requirements.

In references to Reading and Listening:

2.3 Reading and Listening

“As for Speaking and Writing and that the requirement of ‘Reception of communication emphasises Listening noted by Peter Trekner, (28 October 2010, IMEC 2010) **Reading**, listening, **understanding** and **acting** (speaking, writing)”

What is significant is that none of the above can be quantified to classify as standards for competency in English Language or Maritime English. There are no international standards for Maritime English. It is for this reason that C4FF and TUDEV with support from the EU initiated or supported a series of Maritime English projects. Two of these projects were instigated primarily to set standards for Maritime English, MarTEL (2007-09) and MarTEL Plus (2010-2012).

2.4 MarTEL Standards

In response to the IMO requirements for effective communication summarised above and in particular the MSC 2006 call by the UK delegate in 2007, C4FF (UK) with support from TUDEV (TR) and a number of MET institutions and progressive enterprises in several EU countries instigated a project called MarTEL.

MarTEL is a set of standards for Maritime English. The proposed standards are expected to make seas and ports safer and save lives and to improve the quality of live on board vessels through improved communications. The initial standards included three assessment phases, ranging from Intermediate to Upper-intermediate/advanced levels. There are English tests for given skills of entry level onto Cadet training programmes in Phase 1, English Tests for given skills for Deck and Marine Engineering Officers of Watch in Phase II and English Tests, again for given skills, for Senior Deck and Marine Engineering Officer in Phase III. The Phase 2 online test’s start screen can be viewed in Figure 1 below.

MarTEL is not a tool set to solve problems but a pro-active approach to avoiding problems in the future, hence a Newtonian approach. It overcomes the limitations of SMCP and removes the need to use standards such as IELTS or TOEFL as these are not designed for seafarers' requirements. Unlike IELTS or TOEFL, MarTEL is a vocational approach and relies on the languages skills needs of different types and ranks of seafarers.

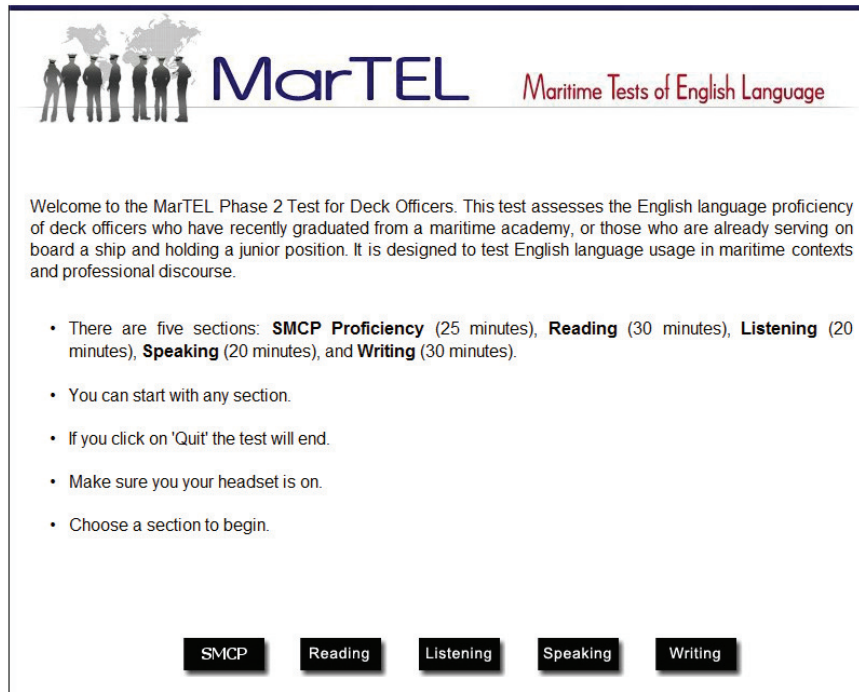


Figure 1 - Start Screen for the Phase 2 Deck Officer Test

MarTEL, abides by the findings of an earlier EU funded Leonardo pilot project that, there is no language called 'Maritime English' and that competence in English Language is only attained if developed in the context of English language. Maritime English is the vocational element of the English Language for seafarers and should be treated as any other ESP (English for Special Purposes). This concept agrees with findings of arguments presented by Loginovsky (2002). MarTEL also clearly identifies the English Language needs of each type and rank of seafarers, setting English proficiencies levels at three different phrases. MarTEL embraces SMCP and incorporates additional content which has been emanated from the study of some 700 accidents. MarTEL, places less reliance on conventional English Language tests such as IELTS, TOEFL, etc. The latter standards are developed for academic studies. Most Merchant Navy Officers come through vocational routes. Furthermore, IELTS, TOEFL do not distinguish languages skill needs, of different types and ranks of seafarers and they do not embrace SMCP. One very important attribute of MarTEL is that it is about the Maritime Test of English Language and not English Language test of Maritime knowledge. MarTEL, takes the arguments of all scholars and researchers in the field of English language competency requirements at sea. The development of MarTEL Standards necessitated the views of Logie (2007) to be taken into consideration. She is of the opinion that Maritime English training at METs lacks the following:

- Time allocated to Maritime English
- Up-do-date resources integrating Maritime English content with the Communicative Approach to language training.

- Time to develop practical skills of listening and speaking (with priority given to learning terminology).
- Exam systems evaluating spoken competence.
- A standardised qualification for Maritime English trainees and trainers.
- Opportunity for Maritime English trainers to update their knowledge of both subject content and methodology.

MarTEL, initially offered the Tests at three different levels/phases:

Initially, each phase contained a standard (test) supported by a set of study guidelines and each having a series of study units, language skills and skill levels for each type and rank of officers. In Phases 2 and 3 these skill needs are clearly identified which are based on the outcome of some 700 accident investigations. Each phase has been tested and evaluated in several countries involved with the MarTEL project.

- Phase 1 - Cadet – Cadet Programme Entry Level
- Phase 2 - Officer of watch – Deck
- Officer of watch – Marine Engineers
- Phase 3 - Senior Officer – Senior Deck
- Senior Officer– Senior Marine Engineers

There have been several papers and workshops on MarTEL since the project commencement; a number of these are listed in the bibliography section at the end of this paper.

To support the development of a comprehensive framework for the MarTEL standards, an additional standard, features and functionalities were incorporated into MarTEL through the MarTEL Plus project (2010-12). Following on from the three initial phases, a fourth phase was devised in this new project in an attempt to overcome the problem of not having international or European standards for Maritime English for Ratings. In devising a standard for Non-officer ranks, a similar structure to the initial Phases was developed. The MarTEL Plus project will also improve the quality of MarTEL standards for Ratings, Cadets, Officers and Senior Officers by providing teachers guidelines for each phase. To fully assess the communicative abilities of seafarers, a separate enhanced oral test with supporting materials was also developed, which will be assessed through a one- to-one session with a qualified examiner. In order to help students to prepare for the MarTEL phase tests, a learning and revision application using mobile phones (Mobile App) for each of the different phases has been created. This will allow test takers to prepare for their tests when an opportunity arises at any location, at sea or ashore. This mobile learning/revision tool will not only extend the materials available to the test takers, but will also allow for easy accessibility to these materials. The increased access will inevitably lead to more users. All these additional features and functionalities and standard make the tests more sustainable and in parallel improve the validity of the tests for all phases of MarTEL.

3. Validity in language test and the purpose of MarTEL

At the early stage of the MarTEL development the notion of validity as prescribed by Ziarati (1995) in testing has been taken into consideration. The concept of validity adopted for MarTEL from language testing in general is based on Ziarati (ibid) that the validity which is taken as embracing:

Content validity (relevancy) – the content is based on IMO standards and model courses approved by major awarding, accrediting and licensing authorities.

Requirement validity (competency, IMO STCW) – the test covers all stated requirements of major national and international competency requirements such as IMO STCW.

Structural validity (consistency) – the tests are in line with various European English language frameworks and abide by a set of rules and specifications.

Range validity (coverage) – the tests relate to known tasks carried out on board vessels at sea or in ports.

Depth validity (assessment/performance criteria) – the depth is defined by a set of assessment criteria and a sample test acceptable to a major awarding body.

Assessment validity (fairness) – the assessment is validated by a set of marking criteria.

Professional validity – the test is graded through internal and external sampling and verification by language specialists and an appropriate and qualified seafarer.

It is crucial to know whether we really measure what we intend to measure. Furthermore, the unified notion of validity of language testing also concerns consequential aspect of the test, which means how the use of the test will impact on test users (Messick 1989). The recent theory of validity in language testing has been shown to acknowledge that there is no absolute answer to the validity question (Fulcher and Davidson, 2007: 18). Thus, the question of validity is: “how would we decide whether an argument was adequate to support an intended use of a test? (Fulcher and Davidson, 2007: 18). This concept of validity argument can be raised in any process of testing development (Chapelle, 2008). Therefore, MarTEL has acknowledged that valid tests can provide sufficient evidence and theory rationale when test users interpret the scores gained from the tests and this will help them to make inferences based on the score for their purpose. Bearing these concepts of validity in mind it has been realised that defining the purpose of the test should be the very first of step of testing development. The MarTEL team from the start based their work on the existing practice of developing tests taking into consideration the state of art in English Language testing practice and abiding by several known good practices (BTEC/Edexcel System of assessment).

4. Language Specific Purpose (LSP) tests and the maritime context analysis

MarTEL is a set of the tests which aims to assess Mariners English language ability in their job performance. Therefore, it is a Language Specific Purpose (LSP) test which is combined between assessment of language ability and background knowledge of specific domain. Douglas (2000: 2) points out that “authenticity of task” and “interaction between language knowledge and specific purpose content knowledge” differentiate LSP from general language tests. Douglas (2000: 2) suggests that authentic test tasks reflect characteristics of language tasks used in the target domain. Then these tasks will allow test takers to perform the language ability as they may do in the real situation. The MarTEL project has begun with analysing the maritime context. First, we attempted to define what language ability is and what job-specific knowledge is in the context we would like to assess. Then, we examined task types in the context in five skill sections we would like to include in the test, such as reading, listening, writing, speaking, and SMCP. In order to analyse the maritime context, MarTEL has taken on ‘people’ from maritime contexts such as former captains, deck and engineer officers, maritime English teachers, and maritime subject lectures and this has provided us with insight into the knowledge domain identifying the specific tasks involved in real and the language used in the target context. Consequently, the MarTEL team has realised that the tests should be developing different phases in terms of job positions as the language and the knowledge used in the context are different. The maritime domain has been divided into

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4 phases; Phase 1 for cadet officers, Phase 2 for deck and engineer officers, Phase 3 for senior deck and engineer officers, Phase R for ratings in order to reflect the language and knowledge that are used in the different job positions. The purpose of each test has been set up for each phase of the language ability and the specific knowledge required carrying out the different job positions on board. Table 1 provides the purpose of each Phase test.

Second, the MarTEL team has also considered the materials provided by the IMO (International Maritime Organisation) such as the STCW (Standards of Training, Certification and Watch keeping for seafarers) and IMO Model course 3.17 Maritime English (2009 Edition). According to the STCW, the minimum requirements of English language proficiency is included into the specification of minimum standard of competence for officers of navigational watch, officers of engineering watch, electro-technical officers and GMDSS radio operators. For example, the minimum requirements of English proficiency is defined for officers as “Adequate knowledge of the English language to enable the officer to use charts and other nautical publications, to understand metrological information and messages concerning ship’s safety and operation, to communicate with other ships and VTS centres and to perform the officer’s duties also with a multilingual crew, including the ability to use and understand the IMO Standard Maritime Communication Phrases (IMO SMCP)”. It seems that STCW is aware of the importance of the English language ability, but the requirements of English proficiency have not provided a deep insight of it, and it can be said that the explanation of requirements is vague. However, MarTEL has adopted the specification of knowledge, understanding and proficiency for Phase 2 and Phase 3 which will be based on the testing competence. The use of MarTEL may affect the amendment of STCW in terms of the requirements of English proficiency, which may be the potential positive for MarTEL and its future impact.

Test		Purpose
Phase 1		The MarTEL phase 1 test aims to assess the English language proficiency of those wishing to enter maritime training institutions as officer cadets
Phase 2	Deck officers	To assess the English proficiency of deck officers who have recently graduated from a maritime academy or are already serving on board a ship and holding a junior position. It is designed to test English language usage in maritime contexts and professional knowledge.
	Engineer officers	To assess the English language proficiency of marine engineer who have recently graduated from a maritime academy or are already serving on board a ship holding position. It is designed to test English language usage in maritime contexts and professional knowledge.
Phase 3	Senior deck officers	The phase 3 test for senior officer assess the English language proficiency of senior rank deck officers at management and operation level in a maritime linguistic context
	Senior engineer officers	The phase 3 test for senior engineer officers assesses the English language proficiency of senior rank engineer officers at management and operation level in a maritime linguistic context.
Phase R		The MarTEL Phase R aims to assess the English language proficiency of crew members who have chosen a career on board ships as deckhands. It is designed to test English language usage in maritime contexts and professional discourse.
Enhanced Oral Test (EOT)		MarTEL Speaking Test is aimed to assess language proficiency in Maritime English. The purpose of the test is to determine whether test takers have sufficient language competence according to specific criteria to perform their professional duties. It does not test professional competence.

Table 1 - The Purpose of each MarTEL Phase Test

5. Task design and Item writings

After analysing the maritime context in terms of what English language ability and what Job specific knowledge are used with people from the target domain and investigating existing materials such as STCW and IMO Model course 3.17 Maritime English, the MarTEL team has focused on developing each phase of the test in language ability to be assessed, suggested topics related to specific job positions, language skills required and task types. As Douglas (ibid) suggests the authenticity of the task and the interaction between language ability and professional knowledge are the crucial part of LSP, where the team has analysed the language and the knowledge used is based on the actual job positions. Therefore, task types are designed differently to assess the language and the knowledge of a given target group. For example, the Phase 1 speaking section has three task types: picture description, independent speaking, and reading and speaking integrated tasks which have been designed to assess speaking skills required in academic settings. However, as we have concluded the senior level of officers may require speaking skills to describe their professional knowledge and job experience in a higher level, thus phase 3 speaking section for senior deck officers provides one reading and speaking integrated task to elicit those skills we intend to assess. Furthermore, the SMCP has been included in Phase 2 test for both deck and engineer officers since we have acknowledged that Phase 2 tests for deck and engineer officers require more operational level of language use onboard ship where maritime-specific vocabulary is more widely used. The same is true for tests for Ratings, where the emphasis is primarily on support aspects of seafaring.

6. Improving the validity of the MarTEL Standards

Validity, as defined by Henning (1987), in general refers to the appropriateness of a given test or any of its component parts as a measure of what it is purported to measure. MarTEL measures ability in carrying out a set of tasks/jobs as specified by the IMO STCW requirements.

The tests also need to ensure that the content of the test is 'fit for the purpose' hence the need to develop a set of hypothesis, to check whether the results are accurate (Ziarati, 2008). MarTEL pilot tests applying a set of hypothesis developed by the profession have consistently shown to be valid over a period of time. The results of these hypotheses are provided in Table 2 below.

The following paragraphs list the hypotheses and the result of one of the several pilot tests. Similar pilots tests have been carried out in several MarTEL partner countries but the one summarised below is an example of attempts to make MarTEL tests valid and more reliable through actual testing of target groups and learn from the outcome of these pilot evaluations.

Set of hypothesis:

Sub-hypothesis H 1 - MARTEL can be used to measure your writing skills in Maritime environment and content

- Is MARTEL an adequate test to measure your ability to write official letters in English?
- Is MARTEL an adequate test to measure your ability to write a short notice (memorandum) for multi-lingual crew in English?
- Can MARTEL be used to measure your ability to fill in an official form?
- Can MARTEL be used to measure your ability to prepare an accident report?)

Sub-hypothesis H2 - MARTEL can be used to measure your speaking skills in Maritime environment and content.

- Can MARTEL be used to measure your English skills for external communication?
- Can MARTEL be used to measure your English skills for internal communication with crew (SMCP) for a ship manned with multilingual personnel?
- Can MARTEL be used to measure your English skills for internal communication with inspectors during Port State Control onboard a ship?

Sub-hypothesis H 3 - MARTEL can be used to measure your listening skills in Maritime environment and content

- Can MARTEL be used to measure your level of understanding during VHF communication with a VTS operator?
- Can MARTEL be used to measure your level of understanding during VHF and/or telephone communication with English speaking shore parties during port operations?

Sub-hypothesis H 4 - MARTEL can be used to measure your reading comprehension skills in Maritime environment and content.

Can MARTEL be used to measure your knowledge and understanding of NAVTEX messages (meteorology)?

- Can MARTEL be used to measure your knowledge and understanding of List of Radio Signals?
- Can MARTEL be used to measure your knowledge and understanding of Pilot Books written in English?
- Can MARTEL be used to measure your knowledge and understanding of English Notice or Guidance published by Maritimes authorities?
- Can MARTEL be used to measure your knowledge and understanding of a Notice to Mariners written in English by a local or national authority?

Sub-hypothesis H 5 - MARTEL is more suitable to be used to measure Maritime English skills when compared with previous tests

- In your opinion how would you rate the MARTEL test against other Maritime English tests you are aware of / taken?
- In your opinion is MarTEL Phase 2 level an adequate test of the maritime English level required for an Officer of the Watch?
- At what level can MARTEL Phase II be used to assess an Officer of the Watch's Maritime English skills?
- In your opinion how well does MARTEL cover the main subjects of Maritime English (SMCP, meteorology, Navigation, Watch, Safety, and Maritime Management, etc.

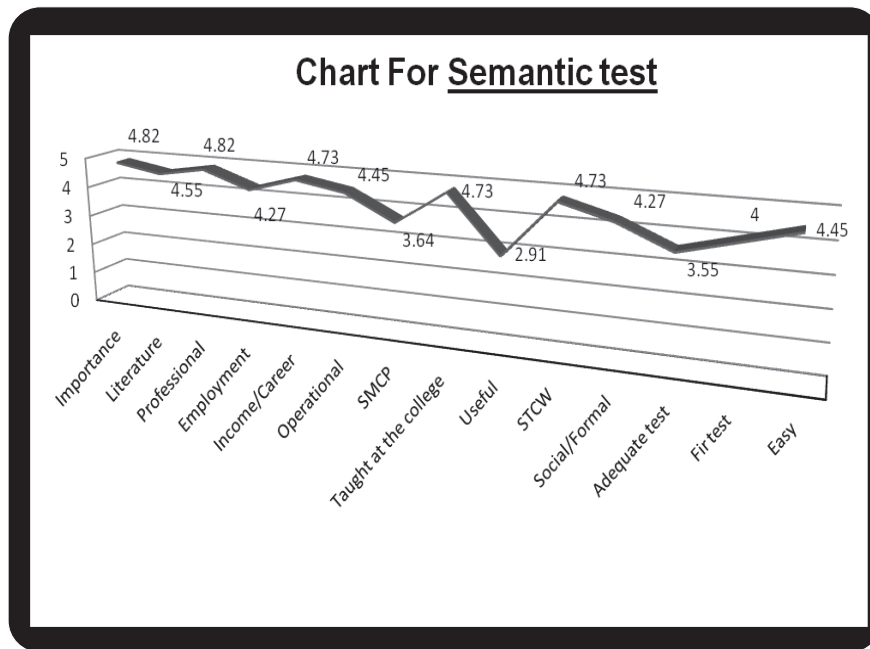


Figure 2 – The results of the Hypotheses are provided in the Chart for Semantic Test

As MarTEL is primarily about transfer of innovation from existing language testing systems the issue of validity is also seen from the point of how the existing language testing practices ensure validity of their tests. MarTEL is a series of Language Specific Purpose (LSP) tests and hence the characteristics of LSP have to be taken into consideration. The distinctive aspects of each phase of MarTEL will have to be explained in terms of task types and how each test has reflected the target domain in terms of language ability and professional knowledge MarTEL tests intend to measure.

7. Ongoing processes and future directions of the MarTEL

7.1 Test specification development

Test specifications are ‘blueprints’ for tests (Alderson, Clapham and Wall, 1995:9), which provides us with the whole plan of constructing a test. Developing a test specification is usually followed by setting the purpose of the test, defining the construct in the target domain. However, the MarTEL has adopted a ‘reverse engineering’ (Davidson and Lynch, 2002: 41) method to develop the test specification as we had started to develop the specification after producing a number of testing tasks and items. The component of each phase of MarTEL test specification entails skills to be assessed, the structure, test item description, multiple choice description, expected performance, marking criteria and scheme, and sample items. The MarTEL team strongly believes that the test specification may allow item writers to produce equivalent testing items and finally it can be a reference for test developers and researchers to develop valid test and to evaluate the test validity accordingly.

7.2 Rating scale development

Analytic rating scales have been recently enhanced to assess speaking and writing performance for the Phases 1 and 2. For the speaking assessment, there are 5 criteria: Communicative ability and content, Lexical accuracy and range, Fluency, Grammar accuracy and range, and Pronunciation. Each criterion will be scored from 0-6. For the writing performance, we also put the criteria: Structure and

organisation, Communicative quality and tone, Lexical accuracy and range, Grammar accuracy and range, and Mechanics, which are arranged from 0-6. The rating scales have been developed based on the expertise's knowledge of Maritime English and the existing rating scales, such as CEFR's global scales and analytic scales. For the next step, MarTEL team will look into the speech samples and written performances collected from the piloting and will investigate whether developed rating scales reflect the outcomes of test-taking performance and the rating scales will be calibrated with evidential outcomes. Rating scales for Phase R and Enhanced Oral Test have been developed alongside with the rating scales for Phase 1 and 2.

7.3 Piloting

The piloting for all MarTEL tests is being conducted with our potential test-centres located in European countries such as Finland, Turkey, Spain, Republic Ireland, and Bulgaria. The purpose of the piloting is to investigate whether the on-line system works perfectly as MarTEL tests are internet-based tests except Enhanced Oral tests. However, for quality control purposes the audio/video recordings of the Enhanced oral test takes place using the existing online system. Moreover, we need to check whether the testing items are designed appropriately to assess our target levels and whether multiple choice items are discriminated well by analysing the scores statistically. Furthermore, as we have circulated the questionnaire including the questions of test contents, test presentation, and time allotment to the participants, maritime English teachers, shipping companies, or those who are already working in the maritime contexts the results have been implemented into the alteration of the tests. After the piloting stage the large scale of field testing is planned with the numbers of actual test-takers who can represent the target field.

7.4 Assessor training

The MarTEL team has acknowledged that reliable scoring is a crucial part of valid testing development. Therefore, training assessors for the speaking and writing is a part of our project. As MarTEL is the test of English language and Maritime specific knowledge we believe that Raters/assessors for the test are the ones who should have the both English language knowledge and the Maritime knowledge or an assessment team composed of both types of specialists are assigned to grade/mark the tests.

8. Conclusion

The MarTEL standards are developed to help MET institutions to fully embrace IMO Maritime English requirements and take on board the language comparability developments in the EU.

It is also common sense that a great deal has and can be learnt from accidents and incidents. In fact all major maritime rules and conventions have emanated from major accidents at sea and in ports. The problem seems to be that different accident authorities use different formats to investigate and report accidents. For obvious reasons the owners also do their utmost not to shoulder any responsibilities for any accidents that may be used against them no matter what. A review of accident reports and technical papers clearly elucidates that there is no unified format for classifying the causes of accidents that could sensibly be used to classify communication failures and those that do, some do not consider the communication errors to be the main cause of many accidents or incidents.

However, the review of many accidents to date clearly shows that communication failures to be one of the main or contributory causes of accidents, and more importantly they can be avoided if those involved with developing and delivery English language training for merchant navy cadets and officers learn from the

identified causes and support the development and implementation of standards such as those being developed by project such as MarTEL. Thus, MarTEL should be considered a positive development and a valuable contribution in improving safety at sea. Improved competence in English language would also help in improving communication among the crew and with others as well as creating a more amenable environment on board of vessels at sea.

It was noted that deficiencies in Maritime English causes accidents and therefore needs to be seriously taught in the basic and the main training of all Chapters of the STCW Code of practice. It is interesting to note that both of the above issues were also the findings of an IMarEST paper and report (Ziarati, 2006; Ziarati and Ziarati, 2007).

In short:

MarTEL is a direct response to IMO requirements for effective communication. It has helped MET institutions to quantify the terms used in the IMO requirements in the context of the language competency and based on the actual job the seafarers are expected to carry out at sea and in ports.

MarTEL is a series of tests and associated materials and guidelines developed by the profession for the profession with direct support from the English language and Maritime English specialists.

MarTEL tests are based on previous accidents and developed in line with IMO Maritime English Course Model 3.17 and the European language development frameworks (Council of Europe, 2009).

MarTEL therefore is a maritime language competency assessment project for the language certification with the main aim of developing a series of maritime English language standards at Elementary, Intermediate, Upper intermediate and Advanced levels, incorporating also the IMO's SMCP, at four different phases: i) Cadets Entry Level (on Cadets Training Programmes) , ii) Officer- Deck and Engineering, and iii) Senior Officers – Deck and Engineering, also senior officers at port and pilots and iv) Ratings. The tests have been piloted in several countries (Ziarati et al, 2008, Sernikli and Sihmantepe 2009).

The pilot tests were highly effective and proved that MarTEL tests are valid.

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