



Volume XXIV 2021

ISSUE no.2

MBNA Publishing House Constanta 2021



Scientific Bulletin of Naval Academy

SBNA PAPER • OPEN ACCESS

Continuing Professional Development for Mariners

To cite this article: E. Demirel, *Scientific Bulletin of Naval Academy*, Vol. XXIV 2021, pg. 177-195.

Submitted: 14.12.2021

Revised: 25.02.2022

Accepted: 15.03.2022

Available online at www.anmb.ro

ISSN: 2392-8956; ISSN-L: 1454-864X

doi: 10.21279/1454-864X-21-I2-018

SBNA© 2021. This work is licensed under the CC BY-NC-SA 4.0 License

Continuing Professional Development for Mariners

Ergun Demirel

Maritime Faculty, Piri Reis University, Istanbul 34940 Turkey

ergundemirel@yahoo.com

Abstract

Continuing Professional Development (CPD) is now a part of our life in exponentially changing posture of the world. We are living in disrupted development which requires to adopt new technologies in our profession as well as to support emerging new professions. It is important for professionals to keep up with technologic developments and enable themselves to adopt challenging requirements. All the leading parties of maritime industry should understand and evaluate the future of the maritime business and advice the Maritime Education and Training (MET) and research institutes to prepare CPD programmes for mariners. More important the maritime industry should decide their requirement for CPD and manage themselves to get benefit from the CPD to secure their business ensuring their employers' career development to adapt to challenging requirements.

The purpose of this research is to evaluate what kind of initiatives should be started to achieve a reliable and sustainable CPD system for mariners as well as encouraging them to get benefit from CPD programmes. As a continuation of this investigation, possible CPD providers and suitable delivery methods for mariners will be defined.

This paper argues for a more realistic approach for CPD for mariners who have very limited access to regular education opportunities due to nature of their job at sea. A detailed literature has been conducted to understand CPD concept and applications supported with a survey conducted with respective persons in the industry to realize the facts which directly affecting CPD opportunities for people working in the shipping industry. We review related data to evaluate how we can develop an effective and reliable CPD system considering existing limitations. Herein lies the contribution of this paper; it is argued that how we can assist the mariners providing them a practical CPD system and meet the new requirements which sector needs under the pressure of rapidly changing technology and its effects on the professions.

This is an initial study and results of this study may be used by other researchers who will make further studies on the facilitation of CPD.

Key Words: Continuing professional development, CPD; Lifelong learning for seafarers; Planning CPD activities; Practical training; Maritime education and training.

1. Introduction

World is rapidly changing and affecting our lifestyles. The technology produces state of arts machineries which are used to facilitate job applications, and subsequently working environment, work styles and working methods are quickly changing. This situation makes the people to update their knowledge, skills, competencies and working methods. Simultaneously it requires review of existing background based on regulations, rules, procedures, and processes. These changes require modifying content and operation methods of professions as well as meeting the new requirements for existing profession and emerging new professions.

Traditional skills are not sufficient to meet new requirements for changing business environment. Therefore, new knowledge, skill, and competencies should be adopted to enable people to assume profession in new business environment continuously. Continuing Professional Development (CPD) is a manner for professionals to update their skills, knowledge, and competencies to maintain their eligibility for new order of business.

It is understood that it is inevitable to stay abreast of change in the business and society which affect people's job, position, status, and success in this challenging world. Firstly, both shipping companies and maritime education institutes should understand that what is shifting in business and how it will affect employees, and they should decide what kind of new skills and knowledge is needed. Then suitable CPD method is to be selected to mitigate existing deficiencies considering restrictions related to working periods and lifestyle of the learners.

1.1. CPD (Continuing Professional Development)

CPD stands for Continuing Professional Development. It refers to the process of tracking and documenting the skills, knowledge, and experience that users gain both formally and informally as they work, beyond any initial training. It is a record of what they experience, learn, and then apply. The term is generally used to mean a physical folder or portfolio documenting one's development as a professional. Some organisations use it to mean a training or development plan, which is not strictly accurate. (jobs.ac.uk, 2020). This article describes Continuing Professional Development as a process of recording and reflecting on learning and development.

CPD may be a great tool for career planning and it may be a perfect tool for companies and institutes for their personnel developments plan. Big companies and institutes have personal education and training departments. A new role for this department may be planning CPD programmes for their employees as well as assisting employees to analyse CPD requirement and assist them planning their own CPD activities.

To understand the recent development in their profession and obtain required knowledge, skill and competency which required ensuring their efficiency in their job, all professional need a form of CPD application. It is a voluntary process. But learners to ascertain themselves that they should use suitable CPD techniques, keep track on available CPD courses, record the content of courses, take the examinations after training and finally evaluate what they have gained.

1.2. Importance of CPD.

Lessing and de Witt (2007) have made a survey based on workshop related to teachers' perception on value of CPD. Most teachers acknowledged the importance of CPD and felt that the sacrifices they had made were worth it. The results of this study may be resumed as follows.

Teachers indicate that it helped to improve their work lives, provided knowledge, developed excellence and efficiency, and could contribute to a change in existing teaching habits. They indicated that the workshop had enhanced their critical thinking about their teaching methods, developed competence and made them aware of whole school development. The workshop was also valued CPD as a tool to upgrade their knowledge, address specific needs and inspire them in their teaching practice.

Lecturers and education planners have a crucial role in CPD. To achieve a successful CPD; firstly, all respective parties should realize the importance of CPD. Then we should create different type of forum to enable them to realize the principles for a successful CPD, variety of activities related CPD and hand-on applications.

Some professions use the term 'continuing professional development' formally and require a certain amount of development activity to be carried out and documented each year as a condition of maintaining membership of, or registration with, a professional body, or a licence to operate in that field (Skills you need, 2020).

In many areas, CPD is used more informally and out of the standards of education methods and non-professional educators. There is need for a commitment to learning and improving CPD in professional manner.

1.3. Further knowledge on CPD

Continuing Professional Development (CPD) is a combination of approaches, ideas and techniques that will help users to manage their own learning and growth. The focus of CPD is firmly on results – the benefits that professional development can bring user in the real world. Perhaps the most important message is that one size does not fit all. (CIPD, 2020). CPD will help users to develop their skills set in several different areas including self-development, social awareness, and employability. This employability course will introduce users to many sought after skills in the world of employment including managing social behaviours, understanding stress and anxiety, personal identity and developing employability skills.

The ultimate outcome of well-planned continuing professional development is that it safeguards the public, the employer, the professional and the professional's career. Well-crafted and delivered continuing professional development is important because it delivers benefits to the individual, their profession and the public (Ishtiaq , 2020). Wherever users are in their career right now and whatever they want to achieve, their CPD should match exactly their own career plan.

CPD is totally different from watching a programme on TV or chatting with friends or participating a conference. It is important to realize that the importance of CPD in development of one's profession. The best ways are to establish communication with colleagues, read professional periodicals, following job related legislations, procedures, and processes. In fact, every human being inherently has common sense and insight to understand what is going on and what should do if the new situation creates a danger or undesirable condition. Previous experiments also define their course of action. If the following conditions are realized the activity may be accepted a CPD.

- Person who benefits from CPD should focus on what he/she want to gain from this CPD.
- Define his/her expectation from this CPD and record which expectations/objectives gained at the end of training
- Information delivered should be recorded in any manner critical issues should be noted.
- Finally decide what kind of a next CPD he/she may need.

Any person who wants to update his knowledge, skills, and competencies to meet the new requirement of his profession or his/her career development plan, should define his/her aim and objectives. Then considering objectives the learning objectives should be clarified, then suitable CPD methods should be named.

Best way to find a suitable CPD is up to person's selection. In some cases employer may also decide that some employees should have some selected CPDs. Nowadays many companies, many institutes are providing CPD courses which are generally pre-planned and obligatory.

1.4. CPD applications for marine industry and respective institutions

The Institute of Marine Engineering, Science & Technology (IMarEST) is the international professional body and learned society for all marine professionals. The IMarEST is also an awarding body which accredits Academic, Continuing Professional Development (CPD), Initial Professional Development (IPD) and Graduate Training courses in marine engineering, science, and technology around the world. Although it is a UK based institute, it has many affiliates throughout the world. The IMarEST established an online network to deliver courses, conduct meetings and meet with experts visually, related to the marine professions.

The system developed by IMarEST may be considered as a good example for CPD application for marine professionals. One of the most fruitful CPD manners is to meet the experts and get benefit from their experiment and opinions. Especially internationally recognized and accredited courses may create a change for their career plans.

In according to a study made by Fraunhofer (2013) the biggest challenge in ship management is the crewing (Figure 1). It is not possible to operate maritime industry efficiently and safely without having qualified manpower. Industry may have qualified manpower not only ensuring education at schools but also establishing a continuous education and training system during their employment. Many companies have already established further training system to satisfy their special requirements. But it would be better to combine individual efforts and create a common system to serve both employers and employees. After mergers of the shipping companies, very huge companies also operate ports, shipyard and acts as a logistic company, became dominant in the shipping industry. A perfect CPD system serving all community may be established by the cooperation and collaboration of these major shipping companies and maritime organizations.

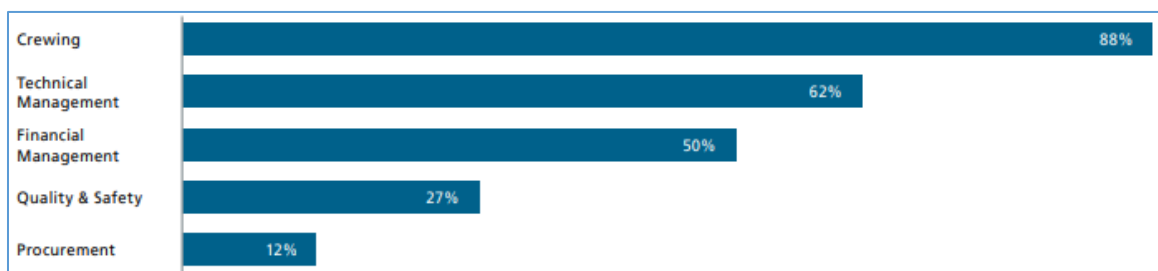


Figure- 1: Biggest challenges in ship management (Source: Fraunhofer, 2013)

BIMCO (Baltic and International Maritime Council), ISF (International Shipping Federation), ICS International Chamber of Shipping) ICS (Institute of Chartered Shipbrokers are the key international non-governmental organizations which leads the maritime industry. They may assume a leading role for development CPD system in support of marine professionals. Famous classification societies such as DNV GL, NK are already handling some courses (paid or free) for mariners. If the IACS (International Association of Classification Societies) and P&I (Protection and Indemnity) Clubs call the members to contribute CPD courses for marine professionals, they will make a significant contribution to the maritime society. As being an international high level MET institution World Maritime University may also assist to respective CPD providers and user for education planning and delivery methods.

1.5. Professional Learning and Development

Professional learning and development (PD) programmes play an important role in improving professionals' ability to teach and provide for the children and young people they work with. An examination of the evaluation findings and literature identified seven specific components as being pivotal to successful PD. These are: team interaction; cultural relevancy; expert facilitation; integration of PD with the child's intervention; translation of theory into practice; provision of time for reflection, practice and action; and the application of learning to an authentic context. (Bevan-Brown et al, 2012)

Tony Bates (2012), Editor of Professional Development in Education journal has published an editorial on "Professional learning in professional communities: the ultimate goal". This is a resume of the new approaches and expressions from the articles published in their journal. The significant issues in this editorial are international collaboration is the essential component of effective PD. There is a strong need to establish a global network to share "educational policy and practice", particularly in higher education. So, people may learn new policies and applications, and may get benefit from the "best practises" in the other countries.

Mitchell and Cubey (2003) highlighted the importance and effect of appropriate content in professional learning. They reported that professional learning programmes with a focus on content knowledge have a significant positive effect on participants' self-reported increases in knowledge and skills and changes in practice.

In 2019 AMA (American Marketing Association) organized a conference on 'Higher Education for higher education marketers' mainly based best practices and fresh ideas for engaging diverse audiences, navigating tricky social changes, building strong teams, strengthening an institution's brand and more. The followings are recommended to get the best results from online programmes:

- Establish core foundational activities in which to partake when building something new
- Improve user experience and institutional impact
- Build new items on the site that expands its impact
- Create a culture of accessibility

Another important issue is preparation of content for online distance learning. The learner (customer) should be satisfied from the content of the course. Experts should work on the data to be used for creation of course material. The social media experts should define best method to be used for distribution of content. Editorial staff can oversee resurfacing relevant content as needed. The election of suitable staff to handle the course is rather important.

2. Material and Method

Continuing Professional Development (CPD) is now a part of our life in a rapidly and exponentially changing posture of the world. We are living in disrupted development which requires to adopt new technologies in our profession as well as to support emerging new professions. It is also important for marine professionals to keep up with technologic developments in the maritime industry and enable themselves to update their knowledge, skills, and competencies to adopt challenging requirements.

All the leading parties of maritime industry should understand and evaluate the future of the maritime business and advice the Maritime Education and Training (MET) and research institutes to prepare CPD programmes for

mariners. More important the people in the industry should decide their requirement for CPD and manage themselves to get benefit from the CPD to secure their job and ensure their carrier development.

The main purpose of this research is to evaluate what kind of initiatives should be started to achieve a reliable and sustainable CPD system for mariners as well as encouraging them to get benefit from CPD programmes. The existing CPD applications and available lifelong learning providers will be investigated. As a continuation of this investigation, possible CPD providers and suitable delivery methods for mariners will be defined including organizing, planning, and conducting procedures will be provided as well as a subsequent study on CPD users requirements.

The objectives of this study are:

- What did participants want to learn from CPD?
- Are participants able to apply what they gain from CPD in their practice?

This paper argues for a more realistic approach for CPD for mariners who have very limited access to regular education opportunities due to nature of their job at sea. The literature study has been conducted to understand CPD concept and applications and, supported with a survey conducted with respective persons in the industry to realize the facts which directly affecting CPD opportunities for people working in the shipping industry. An investigation is made reviewing all related data to evaluate how we can develop an effective and reliable CPD system considering existing limitations. Herein lies the contribution of this paper; it is argued that how we can assist the mariners providing them a practical CPD system and meet the new requirements which sector needs under the pressure of rapidly changing technology and its effects on the professions.

The study starts with reviewing available CPD methods, advances with evaluating the feasible methods for matching the career expectations of mariners, covers personal and institutional efforts to improve the quality including proposal of a model for planning and conduct cycle to get maximum benefit from CPD. Key question of this research is to make an evaluation on the suitability, applicability, and acceptability of existing CPD methods for marine professionals.

To achieve that a questionnaire has been prepared and applied two focus groups; maritime lecturers who are expert on education and mariners working in the shipping companies who knows new requirements of shipping and working conditions of seafarers. Additionally, a study is conducted to identify the best CPD applications matching with career expectations of mariners, using fuzzy logic application.

This is an initial study to introduce importance of CPD to maritime sector and follow up studies on this subject is needed to prepare marine professionals for the future. The major limitation of this research is that the study is conducted in Turkey which has 11 maritime faculties and 28 million DWT (Dead weight ton) merchant vessels. A continuing research covering the world may provide more additional results.

3. Research

3.1. Main features of CPD

CPD is not like the classical training methods we are used to. The main purpose is to take advantage of all kinds of opportunities and to develop people's professional development. The types of CPT show a very broad spectrum starting from 'Chatting with the co-workers in the office' to the postgraduate studies. Different types of CPD forms are introduced in the Table 1. These methods have been diversified in such a way to provide learning opportunity for the people who has difficulty to reach formal education institutions due to unsuitable working hours and geographical position to reach education institutes.

Table 1: CPD Types

Attending orientation programmes
Receiving coaching
Making presentation to colleagues
Chatting with the co-workers in the office ¹
Supervising students and/or trainees
Taking a sabbatical or career break
Participating in standard employer performance appraisal and goal setting
Being on an organizing committee for a professional event
Refereeing journal papers
Joining a working group or special interest group
Taking any form of courses, e-learning, short courses, distance learning
Drink Participate receptions and socials with colleagues
Mentoring
Getting a further academic qualification recognized by a professional and academic institute
Being an expert witness
Writing professional papers, books etc. to enhance your professional community
Attending training courses recognized by authorized professional bodies
Preparing training courses
Reading the professional books, magazines and journals
Browsing and researching on the internet
Becoming a member of a professional body
Becoming a teacher/lecturer/instructor in a MET institute
Running a sport team
Volunteering a charity

The main issues related to CPD types are as follows.

- Related to expectation from training suitability varies
- Applicability of the CPD types related to the subject and availability of the learner (time period, real geographic position of the learner etc.)
- Acceptability of the CPD also should be considered by cost, availability of tutor and learner, common benefit of both learner and provider institute/company.

To understand and evaluate effectiveness of CPD methods a survey covering maritime education and training institutes and ship operating companies is planned.

Planning and applying CPD

Continuing professional development, or CPD, is the on-going process of developing, maintaining and documenting professional skills. These skills may be gained formally, through courses or training, or informally, on the job or by watching other skills needed (Skills you need, 2017).

The Continuous Professional Development Cycle shows that professional development is, like much other learning, best thought of as a circular series of activities. The process moves from identifying users development needs through planning and then carrying their learning activities, to reflecting on their learning, and then applying it and sharing it with others (Skills you need, 2017).

CPD can be a formal process planned and conducted by an organization (generally employer) to contribute the general skills and knowledge of their personnel or an informal process of individuals to get benefit to renew their knowledge and get additional skills probably as a part of their career plan.

¹ In some work-places employees are together for 24 hours like ships, people spend their free time at mess hall. For eating and chatting. The conversations in the mess hall are also used for transfer of mutual knowledge rather than just only for leisure.

The professionals need to keep track when they have received CPD courses. So, they may evaluate the effectiveness of the CPD they have which directly affects their professional development and career plans. Participant should answer the following questions to evaluate what have been gained from each CPD application.

- What has been wanted to learn?
- What is the contribution of CPD to participant's knowledge skill or competency?
- What is the contribution of the skill, knowledge and competence gained at the end of the CPD application to their work?
- What kind of a follow up CPD application is required for his/her career plan?

CPD for Individuals and Institutions

The main aim of CPD is to enhance, update and upgrade the skill, knowledge and competency of the individuals to provide them meeting the requirements of rapidly changing technology and evolving society. The people in the industry should decide their requirement for CPD and manage themselves to get benefit from the CPD to secure their job and ensure their carrier development.

There are various methods of CPD, and individuals should determine best method for their conditions. They should consider their working hours, working condition and cost of the course and contribution of their employers. To decide best method, they need advice from the professional. The coaching and mentoring may help them for their decision process.

At first look, CPD may be assumed an activity should be achieved by individuals at least for supporting their career development plan. But it is a necessity for employer to provide suitable support for their employees to adapt themselves new developments in sake of sustainability of their business. It is also a responsibility for professional institutions to assist their members for their professional development. MET institutions should establish links with society for taking advantage of their accumulation to improve their programmes to match with the manpower requirements of the business.

The concept of human capital is not based on only the quantity of this resource. It also covers the qualifications of these employees such as their educational status, experiences, relations with their colleagues, competency and skills for taking responsibility and fulfilling these responsibilities completely. The planners should also consider their existing and future (prospective) position within the organization considering their capacities, expectations, motivations, and their degree of success at work.

As a contemporary perspective, the human resources management accepts that the "human" element is at the centre of the organization and highlights it. Personnel Management has three main objectives; to find suitable personnel for the task, to train personnel for future tasks and to ensure that employees are loyal to the organization (creation of sense of belonging).

Kennedy (2005) grouped CPD types according to their purpose. Kennedy has classified these purposes as transmission, transitional and transformative. This classification is important for organizations as well as individuals. Nowadays many organizations are in transition or transformation. In order to carry out this structural change successfully, CPD must be applied to the manpower in a way that will meet the requirements of this new organization.

Career Development Plan

Career Development Plan is a written list of the short and long-term goals that employees have pertaining to their current and future jobs, and a planned sequence of formal and informal experiences to assist the employees in achieving their goals. These goals should be linked to each person's strengths and potential. Ultimately, the purpose of a Career Development Plan is to assist employees in achieving their goals. In doing so, an organization also increases the likelihood of retaining employees, because employees recognize that managers have helped employees achieve their career goals within the organization, rather than employees believing they need to leave to pursue these goals somewhere else (NCDA, 2008). In our challenging world, both individuals and organizations have had to make career plans for their personnel. The important thing in this regard is to ensure the harmony between the career plans of the individuals and the personnel development plans of the employers they work with.

Efficiency of Distance Learning

People are generally suspicious on the efficiency of distance learning probably not having a real classroom environment and teacher. The face to face education is applied since the emerging of very first civilization and it is not easy to convince the people to effectiveness of distance learning.

While countries are at different points in their COVID-19 infection rates, worldwide there are currently more than 1.2 billion children in 186 countries affected by school closures due to the pandemic. With this sudden shift away from the classroom in many parts of the globe, some are wondering whether the adoption of online learning will continue to persist post-pandemic, and how such a shift would impact the worldwide education market (World Economic Forum, 2020). In according to a survey made by International Association of Maritime Universities (IAMU, 2020), 96 percent of the maritime higher education institute has delivered their courses using distance learning tools. During application of distant education process, students attended their courses via different learning systems and continued education outside the campus. The lecturers have used distance learning tools effectively.

During pandemic period, education institutes improved their distance learning system and achieved sustainability of their education in a very short period. During distant education process, students attended their courses via different learning systems and continued education outside the campus. The lecturers have used distance learning tools effectively as well as students adopted distance learning education system.

3.2. Survey to evaluate CPD methods may be applied in Maritime Industry:

The topic is evaluation of CPD application for mariners especially for seafaring officers. The related parties are MET lecturers, shipping companies and seafarers. A group of lecturers from MET institutes was formed to achieve this research. The group has establish coordination with admin staff in particular IT, Human Resources and Student Affairs departments. A network is used to direct communication with lecturers. The data obtained by the group is used for designing the survey.

The main concern was how to reach real data to support this study. At the beginning structured interviews were considered rather suitable. But the movement limitation of pandemic period, this approach was found unpractical. So, a survey has planned to cover three related elements of maritime sector: Shipping company officials, maritime lecturers, and seafaring officers. A survey is planned to evaluate the opinions of seafaring officers through internet. No personnel data such as age, status, position etc. was not asked to keep participant privacy. These factors were assumed as not critical factors to affect the reliability and content. The participants were free to respond or not the questionnaires. They have been also granted to add their personal comments which were not covered in the questionnaire.

Questionnaires has been sent through internet. Unfortunately, only 9 responds are received from seafaring officers.. It is understood that 3 of them has no idea about CPD. The number of participants were very low and some of them even has no information on CPD. So, it is decided not to consider the responds from the seafaring officers.

Aim

The aim of the survey is to investigate and evaluate the of the CPD applications in the shipping sector having the opinions of the respective elements of the sector.

Objectives of the survey

1. To define suitable CPD methods
2. To define applicable of CPD methods
3. To define acceptable of CPD methods for marine professionals

Questionnaire

The initial questionnaires were prepared by a small group of academics consists of five maritime lecturers and having seafaring officer background. The questionnaires are based on the following hypothesis.

- H1: The type of the suitable CPD method for mariners are short courses

- H2: The most applicable CPD method for mariners is online courses

- H3: The most acceptable CPD method is low cost and short duration courses for shipping companies and maritime education institutes.

The questionnaires' has been tested and some changes has been made. Following Ethic Board approval, the online questionnaires were distributed in March 2020.

Target Groups

Two target groups are selected; lecturers who are expert on MET and seafaring officers working in the shipping companies who knows new requirements of shipping and working conditions of seafarers. Maritime lecturers having minimum ten years of lecturing and sea experience and seafaring officers having minimum ten years of sea experience working as manager or staff officers in the shipping companies were selected

Restriction of Survey

Survey is conducted in three Turkish Maritime faculties and nine shipping companies in Turkey. Turkish shipowners have 28 DWT (Dead Weight Tons) of ships registered in different flags. The companies are although based in Turkey, their ships are operating under foreign flags and some ships have multinational crew.

Data analysis

The study adopted a mixed method approach of qualitative and quantitative analyses. Not only the responds the questions but also personal opinions of the participants were taken into consideration. The group has been informed about the synthesized data extracted from survey results. These data were also discussed in the group and reflected to this paper.

Assumption

The weight distribution of three factors (suitability, applicability, and acceptability) could not be done faithfully.. So, the same weight share (0.33) is accepted for all three factors.

Responds

23 maritime lecturers and 22 shipping company officials were responded to questionnaire. Only 4 out of 23 maritime lecturer and 3out of 22 shipping company officials were female.

3.3. Main issues affecting success of CPD for career development

As in other subjects, it is important to evaluate which training methods will be appropriate for CPD. In order for the chosen training method to be implemented without any problems, it is absolutely necessary to make a preliminary evaluation. The purpose of this research is to evaluate the suitability, applicability and acceptability of selected education and training methods in support of CPD. To achieve that a study group is established which consists of three doctorate students (2 ship master and 1 chief engineer working in the shipping companies), 1 ship master and 1 chief engineer working as maritime lecturer. The research is conducted under the supervision of a lecturer holding PhD on the maritime management. The results of previous studies have been introduced the group to enable them to understand the main elements of the CPD. Finally group has decided to make an evaluation conducting a fuzzy logic application.

The group has discussed the subjects taking into account ease of application, cost, and effective use of distance learning for delivery. As a result of discussion the group decided to achieve a fuzzy logic application. The group assessed that three type of education and training methods are rather practical to support CPD activates which meet the expectation of learners. These are;

- Short term courses to add new skills (SKILL)
- Certificate programmes to provide new competencies (COMPETENCY)
- Undergraduate and postgraduate academic programmes for further improvements (ACADEMIC)

S= Skill Courses C= Competency Courses A= Academic Courses

The group has also evaluated the factors which directly affect the success of the Skill, Competency and Academic courses taking into account easy application of available distance learning. The followings are defined as the factors (criteria) which will be weighted:

- A: Suitability to follow
- B: Success of delivery
- C: The cost of the course
- D: The attitude of the students

4. Analysis

4.1. Main features of CPD

There are various methods of CPD, and individuals should determine best method for their conditions. They should consider their working hours, working condition and cost of the course and contribution of their employers. To decide best method, they need advice from the professional. The coaching and mentoring may help them for their decision process.

Planning and Conduct of CPD is a detailed activity requires different planning procedures and a reliable recording to be used for planning of continuing CPD activities. This planning and implementation process has to be an idiosyncratic follow-up and supporting each other.

A huge number of students and lecturers in the world used distance learning systems and they have adopted it quickly without any problems. It is believed that there could be a significant increase in use of distance learning after the end of pandemic. The broad use of distance learning will facilitate the application of CPD as being an essential tool for delivery. Online learning software applications have made a significant surge in usage since COVID-19 improving online course delivery and examination, virtual tutoring, video conferencing tools etc.

The Career Development Plan helps employees set realistic expectations of career growth by suggesting time frames for certain milestones to happen like promotions, further education and training and identifying areas that employees need to develop before becoming eligible for their next steps of their career milestone. If employees are well aware of the organization's Career Development plans, they will be able to define their CPD requirements. If a link is established between the career development plans of individuals and the organization, the expectations of both individuals and the organization will intersect at the same point.

Benjamin Bloom with collaborators published a framework for categorizing educational goals: Taxonomy of Educational Objectives, familiarly known as "Bloom's Taxonomy". The framework elaborated by Bloom and his collaborators consisted of six major categories: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation (Armstrong, 2010). The categories after Knowledge were presented as "skills and abilities," with the understanding that knowledge was the necessary precondition for putting these "skills and abilities" into practice. A group of cognitive psychologists, curriculum theorists and instructional researchers, and testing and assessment specialists published in 2001 a revision of Bloom's Taxonomy with the title "A Taxonomy for Teaching, Learning, and Assessment". This title draws attention away from the somewhat static notion of "educational objectives" (in Bloom's original title) and points to a more dynamic conception of classification. The categorization is changed as: Remember, Understand, Apply, Analyse, Evaluate and Create.

CPD is a tool to develop new skills, competencies (abilities) and knowledge. CPD planners should consider six aspects of Taxonomy for Teaching, Learning and Assessment. In particular 3 aspects are rather important for meeting new requirements of business world from employees: Analyse, Evaluate and Create. Because employees are looking for employees to differentiating, organizing and attributing their jobs. A desirable employee should have checking and critiquing ability to support evaluation of superiors in quality management. In today's challenging world, creativity is the most important feature expected from middle and senior management. For an organization to achieve sustainable development, it desires to have management levels with creative features in planning and production

.4.2. Analysis of Survey

Analysis of responds from Maritime Lecturers.

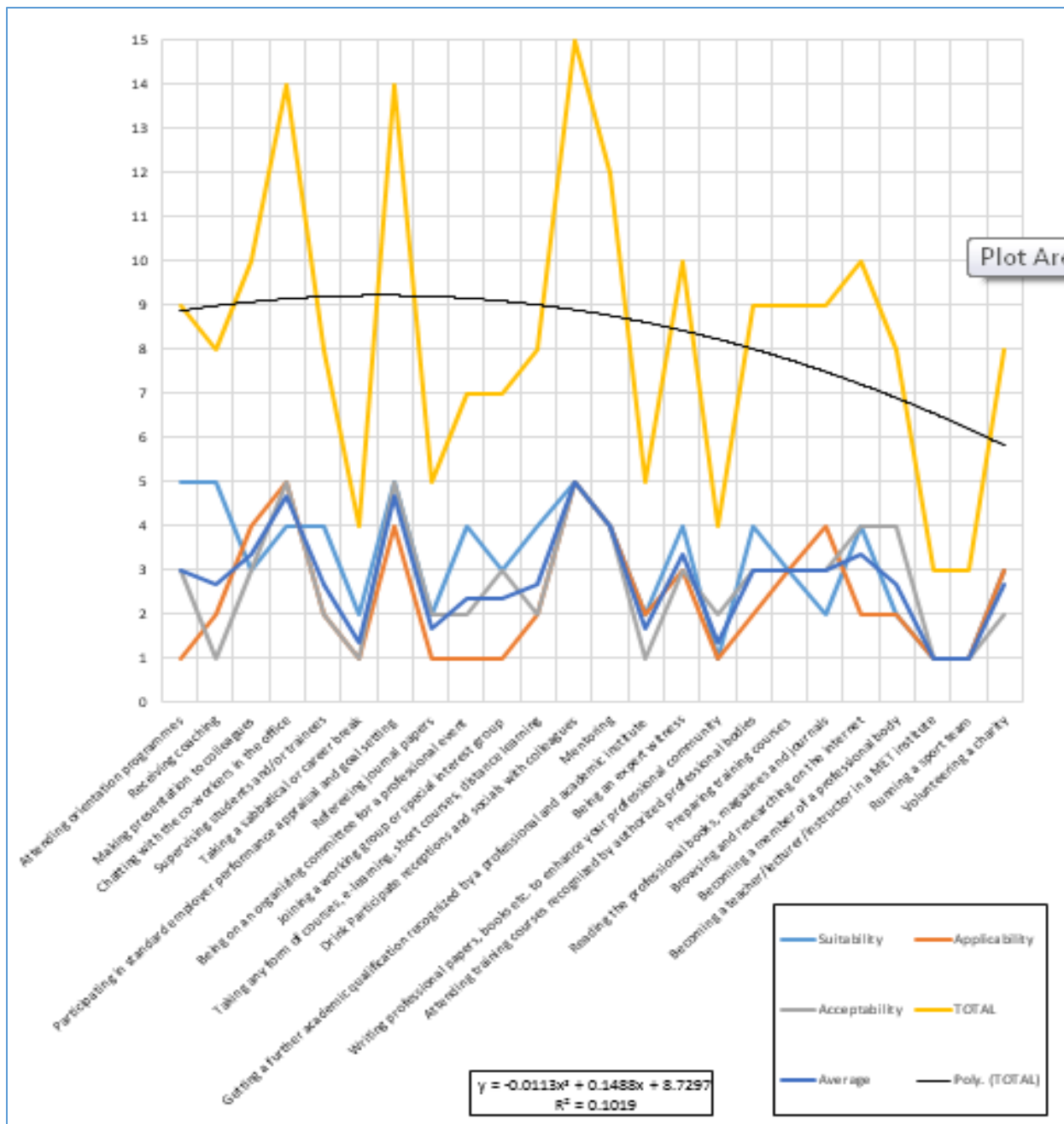


Figure 2: Analysis of responds from Maritime Lecturers.

As a result of the evaluation of the Total scores, which are the sum of the factors of suitability, applicability and acceptability, the following situation was determined.

- Chatting with the co-workers (15)
- Drink participates reception and socials with colleagues (15)
- Chatting with the co-workers in the office (14)
- Supervising student and trainees (13)
- Being an expert witness (13)
- Mentoring (12)

But considering “suitability (fitness for purpose)”; Maritime Lecturers assumed that Attending Orientation Courses, Receive Coaching, Joining a working group or interest group are the best applications for CPD. As a nature of their profession lecturer are looking for structured type of education and training methods requires detailed planning and conduct by professionals.

CPD is inevitable requirement in today's world. This requirement may be met in coordination between shipping companies and MET. To achieve this, there is a need for compelling formal regulations that will enable shipping companies to pay attention to the CPD.

Analysis of responds from Officials of Shipping Companies

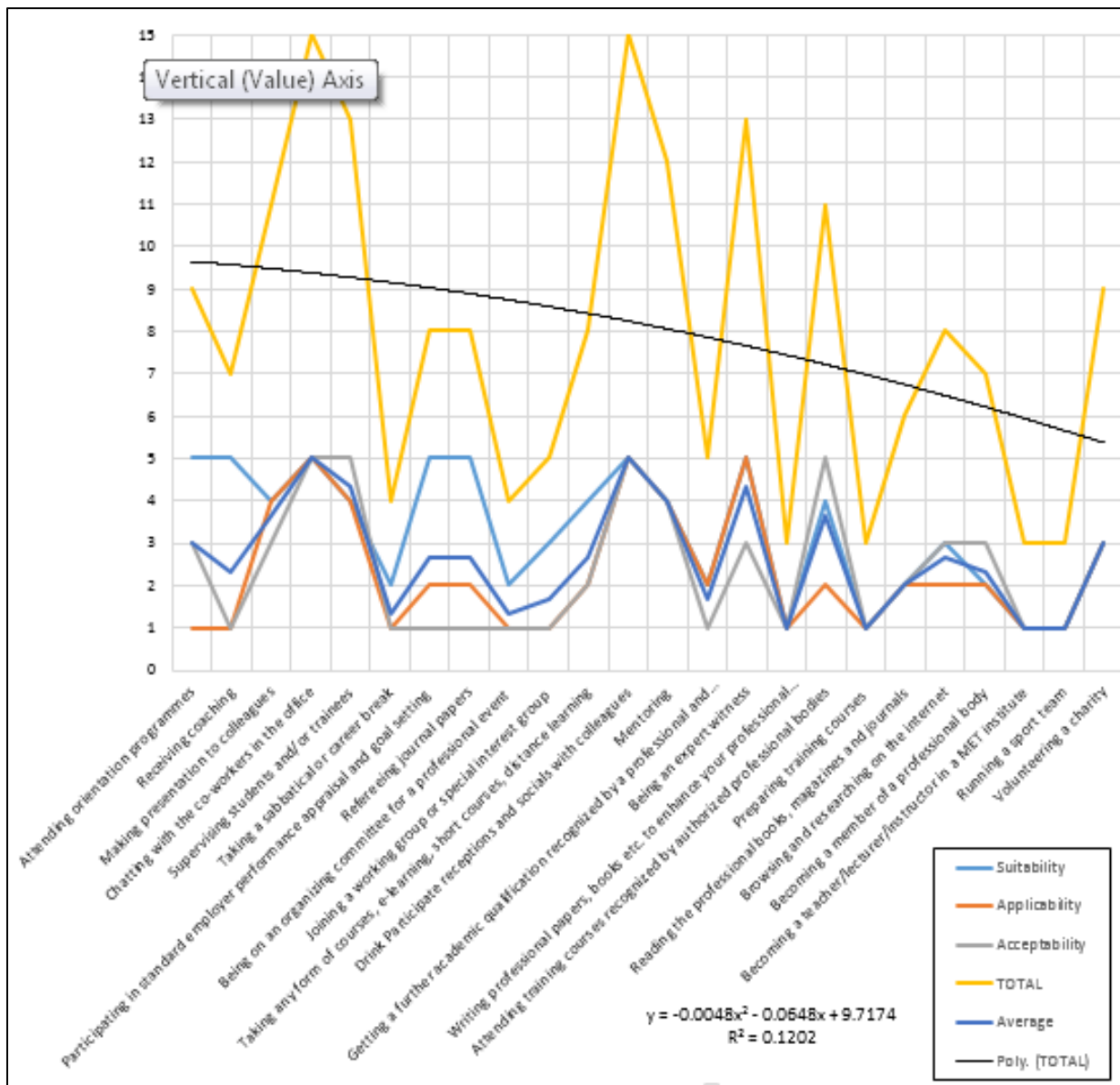


Figure 3: Analysis of responds from Officials of Shipping Companies

As a result of the evaluation of the Total scores, which are the sum of the factors of suitability, applicability and acceptability, the following situation was determined.

- Drink participates reception and socials with colleagues (15)
- Participating in standard employer performance appraisal and goal setting (14)
- Chatting with the co-workers in the office (14)
- Making presentation to colleagues (10)
- Mentoring (12)
- Browsing and researching on internet (10)
- Being an expert witness (10)

These are low or less cost applications preferred by companies probably considering to evade new costs for the employer. But considering “suitability (fitness for purpose)”; Attending Orientation Courses, Receiving

coaching, Participating in standard employer performance appraisal and goal setting are preferred. It is understood that the company officials preferred “low cost or less cost” methods although they are aware of the suitable methods. If we make a dialectic evaluation.

- To apply an effective CPD, the companies should also develop solutions to get benefit from Attending Orientation Courses, but this kind activities needs a perfect planning and budgeting.

- If “chatting with the co-workers in the office”, “drink participate reception and socials with colleagues” are assumed as the best solution, the companies should develop activity schemes to make these social activities also provide an effective CPD.

- Receiving Coaching and Mentoring could be used as an effective CPD methods, but it is important that the coaches and mentors should be aware of CPD techniques. Additionally, they should be able to apply for selected CPD applications.

4.3. The evaluation of application of selected education and training methods affecting the success of CPD for career development

In order to evaluate best education and training method, firstly a weight of importance is discusses. The working group has studied on the weight of each factor for each area which is important in the cost reduction. The scale used is between 1 and 5 and 5 is the most important weightiness. The weights of each criterion for the areas which will be evaluated are defined in the Table 2.

Table 2: Weight of Importance of each factor

	Factor A	Factor B	Factor C	Factor D	Sum
Importance Level	4	3	2	2	11
Importance Weight	36%	27%	18%	18%	100%

The importance of each factor for each area (choice) to be investigated is discussed in the group concerning suitability to follow, success of delivery, the cost of the course and attitude of the learner (to follow the course) and group decision is reflected to Table 3. The scale used is between 0 and 1. The normalized score is found used the following formula:

$$\text{Normalized score} = \frac{1 - \text{Sum}}{\text{Total Sum}}$$

Table 3: Normalized Scores based on Range.

Criteria Alternatives	Choice S (Skill Courses)	Choice C (Competency Courses)	Choice A (Academic Courses)
Factor A (Suitability to follow)	0.8	0.9	0.8
Factor B (Success of delivery)	0.9	0.6	0.9
Factor C (The cost of the course)	0.5	0.9	0.3
Factor D (The attitude of the students)	0.3	0.4	0.4
Sum	2.5	2.8	2.4
Normalized Score	% 34.5	% 32	29.5%

Having the normalized weight of each factor, now we can multiply the converted score of Table 3 with the normalized weight and get the new weighted score as shown in Table 4.

Table 4: Weighted Scores

Criteria Alternatives	Weight	Choice S (Skill Courses)	Choice C (Competency Courses)	Choice A (Academic Courses)
Factor A	36%	0.29	0.32	0.29
Factor B	27%	0.24	0.16	0.24
Factor C	18%	0.09	0.16	0.05
Factor D	18%	0.05	0.07	0.07
Sum	100%	0.67	0.71	0.65
Normalized Score		33%	35%	32%

Comparing the normalized score of Table 3 and Table 4 some shift on the choice is observed. In the Table 4 choice C (Competency Courses) is preferable than choices S (Skill Courses) and A (Academic Courses). However, after we include the weight of importance of each factor, we conclude that choice C (Competency Courses) is the most preferable alternative.

5. Discussion

5.1. Planning and Conduct of CPD

Today's rapid development requires professionals to refresh their knowledge and skills more frequently. In addition, it is necessary for people to make career plans in order to rise to advanced levels in their own field or to find different jobs suitable for their capabilities. For this purpose, it was necessary for people to plan a CPD with their own efforts. Likewise, employers who have to improve the quality of workers and adapt them to developing technologies also contribute to CPD activities.

Taxonomy for Teaching, Learning and Assessment provides a perfect guidance for CPD planners and providers as well as the people who wants to get benefits from CPD. While organizing their training, CPD providers should try to create methods and content that will increase the soft skills of learners as much as possible. Especially, these trainings will enable students to gain analysis, evaluation and creativity skills.

While planning CPD activities, it will be possible for workers and employers to work together and implement this activity more easily. Employers who are considering taking advantage of the CPD in support of their staff development plans may also help their employees to make their plan for CPD. The success of a CPD program that meets the expectations of employers and individuals at minimum in common is essential.

There are various types of CPD available today. These different methods in the CPD spectrum enable people to easily plan and implement CPD by choosing a method for their own situation. The professional advice such as mentoring and coaching is considered helpful for CPD planning based on the personal requirements.

Planning and conducting of CPD is a detailed activity requires different planning procedures and a reliable recording to be used for planning of continuing CPD activities. This planning and implementation process has to be an idiosyncratic follow-up and supporting each other. This cycle is a "plan-do-check-apply" application. It should be thought of as a flexible and easily modifiable process rather than a rigid planning and implementation. The proposed planning and conducting cycle is introduced in the Figure 4.

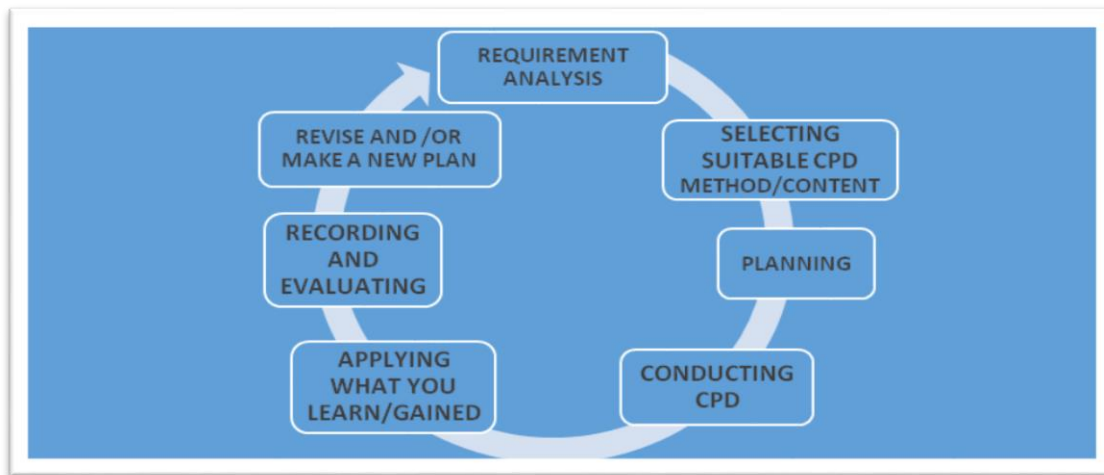


Figure 4: Planning and Conducting of CPD Cycle

This cycle serves to develop a prototype for each person or organization. The persons benefiting from CPD should carefully follow this cycle and modify it concerning their requirements and objectives. CPD providers and organizations which use CPD as a staff development plan may also get benefit using this cycle.

The hardest part of the CPD planning is the identification of personal requirements. To achieve that person or CPD provider should make a deep investigation on “what changed in their profession”, “which new skills or knowledge is required”. The answer to these questions will assist the people to realize their requirement to support their professional development objectives. Then requirements should be prioritized. Based on the prioritized requirements, possible CPD methods should be identified checking suitable courses by CPD course/training/education provided. Additionally, suitability for purpose, applicability, and acceptability of selected CPD method should be considered in particular for time constraints and cost-effectiveness. A CPD activity could be a distance learning course, certificate course, academic programme, video training mentoring, coaching, shadowing colloquies, and reading documents about area of interest.

After deciding CPD courses/training a programme should be planned after consulting and coordinating with internal or external CPD providers. Finally, a concrete program should be created using CPM (Critical Path Method) to avoid any overlaps or conflicts. There is also a strong need to find financial support and avoiding conflicts with working schedule of individual (s).

Then learner should start CPD activities in line with CPD plan. When learner starts activity he/she should take notes on effectiveness of the new knowledge on professional records. Also, learner should estimate which new skills may be applied in his/her profession. One of the best ways is to discuss newly gained information with colleagues, friends and work-mates. This will help learner understand improvement made. The getting benefit from coaching or mentoring will also help learner understand his situation and future requirements.

To ensure CPD effectiveness of CPD courses received, all valuable information should be recorded in particular on which skills or new knowledge are gained. This record will help to revise existing plan and create future CPD activities. When a person has a training as a part of CPD, he/she should make an overall assessment for career development plan. Firstly, assessment of which objectives are met or missing evaluating the effectiveness of each CPD activity. This assessment will help the people to review and revise CPD activity plan in support of their career plan.

Organization’s Career Development plan should identify resources within the organizations which can help the employees realize their requirement and make a plan ahead. Organizations generally have very limited sources to plan and conduct CPD training, so they should also consider resources outside of the organization.

5.2. Survey Results

Both MET institutes and shipping companies are well aware of that CPD is an important issue to meet the requirements of rapidly changing technology and challenging maritime world. The comments on this issue are introduced in the following paragraphs.

MET institutes

- MET institutes believe that CPD is a reality in today's world and inevitable and, it is a type of education which should be planned and achieved by professionals. But they have some queries about the conduct of CPD by shipping companies due to the additional cost and lack of staff to plan and conduct education and training.
- If CPD is left to the initiative of companies it would be very hard to achieve it. So, an international regulatory arrangement could be achieved to enforce the maritime community to take it seriously.
- MET institutes are the best place to organize structured CPD and assist the companies to them organize CPD programmes. CPD requirements should be defined in coordination between shipping companies and MET.

Shipping companies

- The companies should provide continuous education availability for their personnel as a part of their "staff development plan". It could be short term complementary courses, certificate courses, academic programmes and, MSc and doctorate studies for the prospective middle level managers. Many leading shipping companies have been doing this for years already.
- Coaching and Mentoring is still practiced in many companies. What is important here is to determine how coaches and mentors will contribute to CPD practices and for which types of CPD activities will be appropriate this practice.
- To get benefit from "Chatting with the co-workers in the office" and "Drink participate reception and socials with colleagues" the companies should develop new formats to get benefit for CPD without diverting from the main social aims of these activities.
- To achieve above mentioned issues, the companies should create an element for CPD planning and applications as a part of Training department or independent.

Seafarers

Unfortunately, most seafarers do not know enough about CPD and have little interest in career planning. Some assume CPD as a kind of distance learning or academic studies such as graduate programmes. The leading parties of the maritime sector should try to create awareness for CPD to improve the quality of employees to adapt them for future requirements. It is strongly believed that more effort should be spent to introduce CPD for mariners by IMO and other respective maritime organizations to enforce shipping companies pay attention on this issue.

5.3. The evaluation of application of selected education and training methods affecting the success of CPD for career development

As a result of the fuzzy logic application, it has been evaluated that the most appropriate education type within the professional development pattern is the courses that provide competency. The Competency Courses are rather preferable than Skill Courses and Academic Courses. The group assessed that mariners prefer competency courses because these courses will provide a good opportunity to have a new profession which presents a new job opportunity at shore. Because working on board the ships is a boring, hard and discomfort job, and it is worsening every day and they look for a compatible job at shore. Mariners look for skills courses if it is enforced by maritime administration or if requires for specific roles and tasks in the maritime business. Academic courses are not more attractive in the maritime sector and remuneration for academics is not satisfactory when it is compared with the jobs at sea.

Mariners who work at sea for a period of five to six months and then have a one to two months rest period, do not want to participate in long-term training. Likewise, academic programs that require a longer stay on land are not suitable for mariners who earn their living by working at sea. Maritime companies avoid this type education and training as much as possible, which will require the personnel to be away from work for a long time.

Student participation is one of the most important factors in the success of a course. Any kind of education is an important element that enables students to communicate with mentors/tutors and other class mates. Questions-answers and criticism during the course session, especially from tutors provides the learner's ability to be

proactive. Being educated in a group in a real or virtual classroom also enables students to acquire soft skills, which are the qualifications sought by the business world beyond the academic knowledge.

Distance learning was given importance in order to maintain education during the COVID 19 Pandemic period. In a short time, both teachers and learners adapted to this system, and educational institutions developed both their IT systems and delivery methods. Thanks to the newly gained experiences, face-to-face lessons strengthened the teacher-learner relationship, and online exam systems that provide more security made. Use of distance learning will highly facilitate CPD practice.

6. Conclusion

Continuing Professional Development (CPD) is now a part of our life in a rapidly and exponentially changing posture of the world. People are living in disrupted development which requires to adopt new technologies in their profession as well as to adopt emerging new professions. It is also important for marine professionals to keep up with technologic developments in the maritime industry and enable themselves to update their knowledge, skills, and competencies to adopt challenging requirements.

The professionals need to keep track when they intended to receive CPD courses. So, they may evaluate the effectiveness of the CPD which directly affects their professional development and career plans. Unfortunately, many seafarers have no information on the CPD. Some assume CPD as distance learning or academic studies. It is strongly believed that more effort should be spent to create CPD awareness for seafarers introduce CPD for mariners by shipping companies and IMO.

IMO and all the leading parties of maritime industry should understand and evaluate the future of the maritime business and advice the Maritime Education and Training (MET) and research institutes to prepare CPD programmes for mariners. BIMCO, ICS, ISF; Classification Societies, P/I Clubs are the important parties of shipping and they should take responsibilities to achieve an efficient CPD application for employees of the sector.

Applicability of the CPD types are closely related to the subject and availability of the learner (time, real position of the learner etc.) to participate. Suitability, applicability, and acceptability of the CPD activities also should be considered by cost, availability of tutor and learner, common benefit of both learner and provider institute/company. .

In many areas, CPD is used more informally and out of the standards of education methods and non-professional educators. There is a strong need for improvement of CPD applications in professional manner. MET institutes are the best place to organize structured CPD programmes and assist both professionals and companies organizing CPD programmes which meet their requirement.

More importantly the people in the industry should realize the importance CPD and manage themselves to get benefit from the CPD to secure their job and ensure their carrier development. It would be appropriate not only for professionals but also for companies to understand the benefits of CPD by taking into account their own needs and to adopt it as a duty.

Well-arranged CPD practices to meet the needs will increase the knowledge and skills of the employees, while contributing to the development of the practices in the field. The content of CPD courses is also the key issue for professional development programmes. Although there are many education and training systems, it is assessed that there are three essential distance learning method to support CPD; short term courses to add new skills, certificate programmes to provide new competencies and, undergraduate and postgraduate academic programmes to add new aptitudes. The broad use of distance learning will facilitate the application of CPD as being an essential tool for delivery for near future.

The “CPD Planning and Conduct” cycle introduced in the Figure 1 is proposed for professionals to get maximum benefit from CPD as well as organizations applying staff development plans.

The CPD should not be considered as an individual activity to improve knowledge, skills and competency. CPD also provides a lot of advantages for employers for their sustainable development plans in a challenging economy. Not only the employers but also professional institutions (chambers, bars, associations, and worker

unions) should assume responsibilities for provision of CPD for their members as well as education institutes in particular universities.

Implication for Practice

This study will assist the mariners who want to get benefits from CPD for their career planning as well as other employees in the maritime sectors. It will also help the maritime companies to consider CPD as a part of their personnel development plans.

References

- AMA (2019, November 10-13)) AMA Symposium for the Marketing of Higher Education, Las Vegas
https://sf.tradepub.com/free/w_amei09/
- Armstrong, P. (2010). Bloom's Taxonomy. Vanderbilt University Center for Teaching. Retrieved [today's date]
<https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/>.
- Bates T. (2002). Professional learning in professional communities: the ultimate goal, *Professional Development in Education*, 38(4), 511- 516
<https://doi.org/10.1080/19415257.2012.705569>
- Bevan-Brown, J., Bourke, R., Butler P., Carroll-Lind J., Kearney A. and Mentis M. (2012). Essential elements in a professional learning and development programme: a New Zealand case study of autism professional Development to promote collaborative practices, *Professional Development in Education* 38(4) 1-16
<https://doi.org/10.1080/19415257.2011.637225>
- COPD (2020). About CPD.
<https://www.cipd.co.uk/learn/cpd/about#gref>
- Fraunhofer GL (2013). Best Practice Ship Management.
<https://www.cml.fraunhofer.de/content/dam/cml/de/documents/Studien/Best-practice-Studie-2013.pdf>
- Harrey, D. and Bowin, R. B. (1996). Human Resource Management: An Experiential Approach", New Jersey: Prentice Hall, Inc., p.10
<https://www.amazon.com/Human-Resource-Management-Experiential-Approach/dp/0130177881>
- IAMU (International Association of Maritime Universities) (2020, May 5). Summary results of the survey on the impact of and response to COVID 19 by IAMU member universities.
<https://iamu-edu.org/survey-on-the-impact-of-and-response-to-covid-19/>
- ImarEST (2020) Institute of Marine Engineering, Science & Technology - Marine Professional Programs
<https://www.edumaritime.net/uk/imarest-professional-recognition>
- Isthiaq, A. (2020). CPD, The importance of continuing professional development.
https://www.researchgate.net/publication/339263886_Continuing_professional_development_a_need_of
- jobs.ac.uk (2020, March 5). Career Advice, Continuing Professional Development.
<https://career-advice.jobs.ac.uk/career-development/what-is--cpd/>
- Jones, P., West, E., and Stevens, D., (2006). Nurturing moments of transformation in teachers. Comparative perspectives on the challenges of professional development. *British journal of special education*. 33 (2), 82-90. <https://doi.org/10.1111/j.1467-8578.2006.00419.x>
- Kenney, A. (2005) Models of Continuing Professional Development: a framework for analysis, *Journal of*

In-service Education, 31 (2), 235-250, DOI: 10.1080/13674580500200277

Lessing, A. and de Witt, M. (2007). The value of continuous professional development: teachers' perceptions
South African Journal of Education 27(1) –67 ERIC Number: EJ1150223

Mitchell L. and Cubey P. (2003). Characteristics of effective professional development linked to enhanced pedagogy and children's learning in early childhood settings: best evidence synthesis. Publisher: Ministry of Education. New Zealand ISBN: 0-478-18774-2

NCDA (2008). Career Development Plan

https://associationdatabase.com/aws/NCDA/pt/sd/news_article/6420/_PARENT/layout_details/false#:~:text=A%20Career%20Development%20Plan%20is,each%20person's%20strengths%20and%20potential.

Skills you need (2020). Continuous Professional Development (CPD)

<https://www.skillsyouneed.com/ps/continuing-professional-development.html>

World Economic Forum (2020, April 4). The COVID-19 pandemic has changed education forever. This is how.

<https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/>