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# Peer mentoring in the full mission bridge

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**Abstract**
Peer mentoring has been practiced generally to guide or assist mentees and make learning manageable. A mentor could be somebody that could inspire, motivate or encourage mentees. In University of Cebu-Maritime Education and Training Center (UC-METC), student mentoring has been implemented to ensure that competencies required under Standards of Training, Certification and Watch keeping for Seafarers '78 (STCW '78) as amended are acquired by the students. These competencies under STCW '78 are required by the International Maritime Organization (IMO). In the Bachelor of Science in Marine Transportation (BSMT) Department, the student mentoring is implemented in the Kongsberg Full-Mission Bridge Simulator. The student mentors are qualified volunteers with a half day vacant time from Monday to Saturday because a regular mentoring schedule is a half-day session open from Monday to Saturday. All qualified volunteer mentors are required to log 40 hours of training in the Full-Mission Bridge before they are allowed to mentor. Students enrolled in the Elective subject must go through all the scenarios or activities in the simulators with the guidance or help of the mentors. In line with the continual improvement requirement of the quality management system UC-METC, it is the purpose of this study to evaluate the program and to recommend for improvement. The study used a questionnaire adopted from the established and documented Student Mentor Observation Sheet (Document code: SFM-DNS-028-00) and was given to selected BSMT Elective students. The output of the study is the recommendation for improvement of the performance of the mentors, including the scheduling of mentoring.

**Keywords:** Student mentoring, volunteerism, STCW 78**,** full-mission bridge simulator

## 1. Introduction
It has been believed that mentoring was first mentioned in Homer's epic poem *The Odyssey* and the first mentor was a friend and adviser of Telemachus, the son of Odysseus. According to Garvey *et al.* (2018) [5], some of the current understanding of mentoring can be traced back to the 8th century writing of Fenelon (1651-1715), a French Roman Catholic. These understanding include: mentoring support and help to remove the "fear of failure" by building confidence (Ellinger *et al*., 2005; Megginson *et al*., 2006) [3, 10], mentoring involves experiential learning (Kellar *et al*., 1995; Salimbene *et al*., 2005) [8, 14] and a mentor is inspirational (Nankivell and Shoolbred, 1997: Vermaak and Weggeman, 1999) [11, 15].
On the other hand, there are also some mentoring models, according to Garvey *et al*. (2018) [5], that are based from the writing of Louis Antonine Caraccioli (1719-1803) in titled Le veritable mentor ou L'education de la noblesse in 1759. The following are: has self-knowledged leading to the enhanced knowledge of others (Byrne, 2005; Nelson and Quick, 1985) [2, 12], draws on experiences (keller *et al*., 1995; Salimbene *et al*., 2005) [8, 14] and helps to direct attention and assists in making decisions (Brunner, 1998; Pegg, 1999) [1, 13]
In Vygotsky's Zone of Proximal Development (ZPD) as cited in McLoed (2010) [9], the mentor is the adult guiding the learner or the more capable peer, while in the Scaffolding of Wood *et al.*, as cited in McLeod (2010) [9], the mentor is the one that encourages or motivates the mentee in maintaining the mentee's interest in the task, making the task simpler and the one that demonstrate the task.
Huybrecht *et al*. (2010) [6] in their study "Mentoring in nursing education: Perceived characteristics of mentors and the consequences of mentorship", had quoted Jordan (2005) [7] in defining mentoring as "giving support, assistance and guidance in learning new skills, adopting new behaviors and acquiring new attitudes"

The University of Cebu-Maritime Education and Training Center (UC-METC) has been audited by the European Maritime Safety Agency (EMSA) several times since 2006. On this note, the top management has been doing its best in ensuring that the requirements of the International Convention on Standards of Training, Certification and Watch keeping for Seafarers, 1978 (STCW '78) are complied with. These competencies under STCW '78 are required by the International Maritime Organization (IMO). It is in this context that student mentoring has been implemented as one of the methods employed in ensuring that competencies are acquired by the students.

In the Bachelor of Science in Marine Transportation Department, the student mentoring is implemented in the Full-Mission Bridge Simulator (see Figures 1 and 2) to ensure that competencies required by Table A-II/1, Specification of minimum standard of competence for officers in charge of a navigational watch on ships of 500 gross tonnage or more, are acquired.

**Fig 1:** Volunteer cadet in the Full-Mission Bridge

**Fig 2:** Volunteer female cadet in the Full-Mission Bridge

The specific competencies of Table A-II/1 of function 1, under "Navigation at the operational level" are: (a) Maintain a safe navigational watch, (b) Use of radar and ARPA to maintain safety of navigation, (c) Use of ECDIS to maintain the safety of navigation, (d) Respond to a distress signal at Sea and (e) Manoeuver the ship. All mentees were required to perform all the five (5) competencies. They will be assessed by the mentors and will be given a mark of "Competent" if they perform the task correctly. Debriefing is also conducted after they have completed the tasks.

The student mentors who are qualified volunteers have a half day vacant time from Monday to Saturday because the regular mentoring schedule is a half-day session that is open from Monday to Saturday. They are required to log 40 hours of training in the Full-Mission Bridge before they are allowed to mentor and they would mentor all students who are enrolled in Elective subject at their own convenient schedule. This mentoring program was also implemented to ensure full utilization of the equipment of the department.

## 2. Materials and methodology

This evaluation was first conducted to comply with the requirement of the department's quality management system, particularly the compliance to ISO (9001) reference clause # 8.2.1 Customer satisfaction and reference clause # 8.5.1 Continual improvement then with the permission from the campus director it was developed into a full blown action research to determine the degree of satisfaction of the mentees with the mentors performance and to evaluate the program for improvements.

The study used a questionnaire adopted from the established and documented Student Mentor Observation Sheet (Document code: SFM-DNS-028-00) and was given to selected BSMT Elective students. The instrument has 3 categories: 1. General Knowledge, 2. Command and Control items and the 3. Overall performance and feedback on the scheduling. Descriptive survey method is used to analyze the data.

## 3. Target area

The study was conducted at the University of Cebu-Maritime Education and Training Center (UC-METC) in Alumnos, Mambaling, Cebu City, Philippines. It is a maritime campus that offers both the deck and engine program and it has a total population of 8,112. Specifically the study looked into the mentoring program being implemented in the Kongsberg Full Mission Bridge simulator. Selected mentees were asked to fill-up the Student Mentor Observation Sheet, a documented evaluation instrument.

## 4. Results

**Table 1:** Satisfactory rating of the mentors' general knowledge skills. N=167

| 2 | General Knowledge | Not Satisfactory | Satisfactory | Very Satisfactory | Excellent |
|---|---|---|---|---|---|
| 2.1 | Mentor's knowledge and understanding of the subjects needed to be applied in the exercises. | 11 (6.59%) | 42 (25.15%) | 55 (32.93%) | 59 (35.33%) |
| 2.2 | Mentor's familiarity of the instruments needed for the exercise. | 5 (2.99%) | 46 (27.55%) | 55 (32.93%) | 61 (32.93%) |
| 2.3 | Mentor's knowledge to operate the instruments used during the exercise. | 4 (2.40%) | 46 (27.54%) | 52 (31.14%) | 65 (38.92%) |
| 2.4 | Mentor's ability to explain the main purpose and functions of the equipment in Navigation in relation to the competence required in the STCW 2010 amendment. | 9 (5.39%) | 43 (25.75%) | 53 (31.74%) | 62 (37.12%) |
| 2.5 | Mentor's ability to explain the scenario and all the necessary information related to the exercise. | 8 (4.79%) | 41 (24.55%) | 53 (31.74%) | 65 (38.92%) |
| | Average Rating | 7.4 (4.43%) | 43.6 (26.11%) | 53.6 (32.10%) | 62.4 (37.37%) |

Table 1 shows the satisfaction rating of the mentors' general knowledge skills as evaluated by the respondents. In all five items, the Mentors are rated Excellent as the highest, with an average rating of 37.37%, second highest rating is Very Satisfactory, with an average rating of 32.10%, third Satisfactory, with an average rating of 26.11% and the last, Not Satisfactory, with the smallest average rating of 4.43%.

**Table 2:** Satisfactory rating of the mentors' command and control skills. N=167

| 3 | Command and Control | Not Satisfactory | Satisfactory | Very Satisfactory | Excellent |
|---|---|---|---|---|---|
| 3.1 | Mentor's management of the group assigned to him/her. | 9 (5.39%) | 47 (28.14%) | 49 (29.34%) | 62 (37.13) |
| 3.2 | Mentor's ability to correctly respond to questions asked by the mentees. | 11 (6.59) | 45 (26.95%) | 55 (32.93%) | 56 (33.53%) |
| 3.3 | Mentor's ability to conduct briefing based on the exercise sheet provided and explain the intended outcome of the exercise. | 6 (3.59%) | 43 (25.75%) | 55 (32.93%) | 63 (37.72%) |
| 3.4 | Mentor's ability to familiarize the mentees to the instruments and equipment needed to perform the exercise. | 9 (5.39%) | 39 (23.35%) | 55 (32.93%) | 64 (38.32%) |
| 3.5 | Mentor's ability to give final instructions before running the exercise. | 8 (4.79%) | 45 (26.95%) | 46 (27.54%) | 68 (40.71%) |
| 3.6 | Mentor's ability to monitor each group member's performance of his/her assigned tasks based on the monitoring checklist. | 10 (5.99%) | 42 (25.15%) | 54 (32.34%) | 61 (36.53%) |
| 3.7 | Mentor's ability to facilitate debriefing after the exercise by engaging the members to express their own experience on the exercise. | 8 (4.79%) | 48 (28.74%) | 49 (29.34%) | 62 (37.13%) |
| 3.8 | Mentor's ability to check whether intended outcome of the exercise has been achieved or not. | 8 (4.79%) | 40 (23.95%) | 58 (34.73%) | 61 (36.53%) |
| | Average Rating | 8.6 (5.16%) | 43.6 (26.12%) | 52.63 (31.51%) | 62.13 (37.20%) |

Table 2 shows the satisfaction rating of the mentors' command and control skills as evaluated by the respondents. In all eight items, the Mentors are rated Excellent as the highest, with an average rating of 37.20%, second highest rating is Very Satisfactory, with an average rating of 31.51%, third Satisfactory, with an average rating of 26.12% and the last, Not Satisfactory, with the smallest average rating of 5.16%.

**Table 3**: Satisfactory rating of the mentoring schedule and overall mentors' performance. N=167

| | | Not Satisfactory | Satisfactory | Very Satisfactory | Excellent |
|---|---|---|---|---|---|
| 3.9 | Overall mentor's performance | 7 (4.19%) | 40 (23.95%) | 54 (32.34%) | 66 (39.52%) |
| 3.10 | Scheduling of student mentoring | 8 (4.79%) | 44 (26.35%) | 51 (30.54%) | 64 (38.32%) |

Table 3 shows the satisfaction rating of the overall performance of the mentors and mentoring schedule as evaluated by the respondents. Just like the result in table 1 and table 2, the mentors' overall performance is rated Excellent as the highest, with 39.52%, second highest rating is Very Satisfactory, with 32.34%, third Satisfactory, with 23.95% and the last, Not Satisfactory, with 4.19%. With regards to the mentoring schedule, 38.32% have rated it as Excellent, 30.54% have rated it as Very satisfactory, 26.35% have rated it as Satisfactory and 4.79% have rated it as not satisfactory.

## 5. Analysis and discussion

Based from the data collected, the pattern of the ratings in all items in the instrument is the same. "Excellent" is the highest, second highest is "Very satisfactory, third is "Satisfactory" and the last is "Not satisfactory". This result is an indication that the mentees are satisfied with the way the mentors performed as mentors.

In the General knowledge area, two (2) items got the highest rating for excellent: Mentor's knowledge to operate the instruments used during the exercise (38.92%) and Mentor's ability to explain the scenario and all the necessary information related to the exercise (38.92%). The mentors' highest rating in these two items showed their mastery of the operations of the simulator and their mastery in explaining it to the mentees. On the other hand, the item that got the lowest rating of excellent is the Mentor's knowledge and understanding of the subjects needed to be applied in the exercises (35.33%). This lowest excellent rating is an indicator of their limitations. Because of their being a student, they have a limited knowledge and understanding of the exercises. It is in this case where the faculty mentor should come in.

In the Command and Control area, the item that got the highest rating for excellent is the Mentor's ability to give final instructions before running the exercise. This is an indicator that they have mastered this part of the process. On the other hand, the item that got the lowest rating for excellent is the Mentor's ability to correctly respond to questions asked by the mentees. This is one of the limitations of the mentors, that they cannot be expected to correctly respond to all questions asked by the mentees. But again, this is where the faculty mentor should come in to assist the student mentors.

## 6. Conclusions

The mentees have rated the mentors as Excellent in all items or areas of the instrument. This means that the mentees are very much satisfied with the performance of the mentors. Because of this, it can be concluded that the mentors' 40 hours training before they are allowed to mentor had really helped them prepare to become mentors. Moreover, another area of the evaluation is the "Excellent" rating of the mentees to the scheduling. It means that they are very much satisfied with the way the scheduling is being implemented.

## 7. Recommendations

Based from the result and conclusions it is recommended that all existing requirements before any student be accepted and allowed to mentor should be continued including the existing scheduling system. But for continual improvement purposes,

1. On the area where the mentors got the lowest rating, the faculty mentor should consider enhancing or training further the mentors on these areas;
2. On the instrument, the Student Mentor Observation Sheet, it should be further improved. One item in the command and control area, item 3.1 is not related to mentoring and an open item should be added for the suggestions and recommendations of the mentees;
3. A post training evaluation instrument should be formulated to be given to all mentees every after the exercise for regular continual improvement; and
4. To ensure that competencies are really acquired by the mentees, a competency based assessment needs to be formulated.

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