Journal of Research, Policy & Practice of Teachers &
Teacher Education (ISSN 2232-0458/ e-ISSN 2550-1771)
Vol. 11, No. 2, December 2021, 139-151

Evaluating students' level of motivation in learning maritime English during the Movement Control Order (MCO) period: Preliminary findings on online distance learning of an STCW course

Shamsul Rizal Mohd Rosedi
Akademi Laut Malaysia (ALAM)
Corresponding author: shamsulrizal@alam.edu.my

To cite this article (APA): M Rosedi, S. R. (2021). Evaluating students' level of motivation in learning maritime English during the Movement Control Order (MCO) period: Preliminary findings on online distance learning of an STCW course. *Journal of Research, Policy & Practice of Teachers and Teacher Education, 11*(2), 139-151. https://doi.org/10.37134/jrpptte.vol11.2.10.2021

To link to this article: https://doi.org/10.37134/jrpptte.vol11.2.10.2021

Received: 14 July 2021; **Accepted:** 21 December 2021; **Published:** 22 December 2021

Abstract

The global pandemic of Covid-19 has affected the teaching and learning of the STCW courses (*Standards of Training, Certification and Watch-keeping for Seafarers*) which witnessed the drastic move from normal face-to-face facilitation to full online and distance learning (ODL). This new paradigm shift has resulted in significant changes as well as immense challenges to students who experienced this crisis for the first time. Hence, the study aims to discover students' motivation level in adapting to the new environment of online learning as experienced by semester 2 students in Maritime English classes via quantitative study adopted Keller's ARCS Model of Motivation survey administered on 78 respondents. The data collected were analysed and the results showed high level of students' motivation despite having to undergo challenges in online distance learning during the MCO. Moreover, the four elements of the ARCS Model tested in the experiment indicated very high scores in students' engagement, confidence, motivation, and satisfaction. This preliminary study has helped to provide a new perspective on online learning as well as students' motivation to the maritime education and training institutions. Hence, it is hoped that the findings could help them to make continuous quality improvement in pedagogical, technological adaptation and assessment aspects for the benefit of students and stakeholders of the maritime industry.

Keywords: Covid-19, Keller's ARCS Model of Motivation, maritime English, MCO, online distance learning**,** student motivation, STCW

Introduction

The global pandemic of the Covid-19 has considerable effects on many sectors including the education industry (Li and Lalani, 2020; Lisnani et al, 2020; Muhammad Tanveer et al., 2020 and Tam, 2020). From a positive point of view, it helps to revolutionize the delivery of the STCW courses (Standards of Training, Certification and Watch-keeping for Seafarers) in many unthinkable ways. With closures of many educational institutions and schools, 1.2 billion students worldwide are therefore out of school and education has changed dramatically, leading to the significance emergence of e-learning (Li and Lalani, 2020). Restricted by physical movements and deprived further in terms of learning infrastructure, the Movement Control Order (MCO) enforced by the Malaysian government, in its effort to stop the spread of lethal virus among Malaysian population, has forced educators in maritime education and training institutions (METIs) to take a bold step in turning to online and distance learning (ODL). Despite their little exposure and lack of experience in delivering classes in the online mode, METI educators are left with no other choice to successfully complete the cycle of teaching, learning and assessments (TLAs).

While the authorities and administration of METIs are still debating the effectiveness of online teaching for the STCW courses, METI educators especially at Akademi Laut Malaysia (ALAM) have demonstrated tireless effort to cope with the demand of online distance teaching. Linney (2020) reports that this trend is paramount because during the pandemic, digital and online platforms are becoming more vital as there are many physical restrictions for conventional classes. But we cannot deny the fact that technology plays a significant role in conducting and supporting teaching and learning as reported by Wong, Hamzah and Hamzah (2018). Driving from this finding, even though with limited digital knowledge and experience, METI educators at ALAM use whatever tools and applications that they could grasp in ensuring the smooth running of classes and consistent knowledge transfer. But a noble deed may not provide the desired results if it is not being carefully planned. As abrupt as it has been, the online facilitation used by ALAM trainers may lack in details, systematic implementation, pedagogical implication and further improvement and support. Consequently, these may impact students at large as classes are conducted over longer period of time under limited and mundane teaching delivery and activities. As such, students' interests to learn or more popularly known as motivation, will be greatly affected. Indeed, this is an area of significant concern but has been tightly concealed as the immediate focus is more on ICT infrastructure, connectivity, learning content and readiness of METIs to deliver online TLA (teaching, learning and assessment).

This paper, being the first of its kind in the maritime education and training (MET) provides more insights on the importance of motivation in learning, particularly in online distance learning of an STCW subject (Maritime English) during the nationwide enforcement of the Movement Control Order (MCO). This is due to the fact that the online distance learning is not 'about internet communication, but also about blended technology training' that educators need to prioritize (Muhammad Tanveer et al., 2020, p. 13). Besides indicating the level of student motivation when learning the subject online for the first time ever, this study also provides more input in the aspects of Attention, Relevance, Confidence and Satisfaction which have not been emphasized in any research and academic work in the maritime education and training (MET). These dimensions of the ARCS Model of Motivation by Keller (2006) pave way to greater explanation and discovery on student motivation which has not been studied and emphasized before even by the stakeholders.

Background and rationale

Motivation has been attributed to result in 'meaningful learning' (Maslow, 1943; Keller, 1979; Gagne, 1985; Biggs, 1991; Bandura, 1994 and Cook et al., 2009). Even though motivation is considered as an individual trait, it has been one of important criteria being considered by educators when planning their lessons. This is done by considering the impact of such lessons have on learner's engagement and involvement, which finally lead to motivation. Motivation, indeed, is a key factor in learning (Keller, 2010; Molaee & Dortaj, 2015). Moreover, as highlighted by the study of Salih, Mai, and Al Shibli (2016) that motivation is an important component in teaching and learning process, it is undeniable that motivation is truly significant in any form of learning. As it is crucial for effective learning, it has always been argued by researchers that motivated students perform better than students who are less motivated.

A classic theory of motivation suggests that it is actually 'a theoretical construct used to explain the initiation, direction, intensity, persistence and quality of behaviour' (Maehr & Meyer, 1997; as cited in Buckley & Doyle, 2016, p. 3). This means that motivation has the ability to influence behaviour, particularly learners' behaviour in any classroom or educational setting. Hence, the findings of Maehr & Meyer (1997) become a fundamental theory that shapes motivation research in education (Buckley & Doyle, 2016). Moreover, Ryan and Deci (2000) further support and elaborate that motivation has different dimensions and has become a variable in evaluating individual student's level of motivation and also the type of motivation that an individual has experienced in any lesson. More importantly, as reported by Buckley & Doyle (2016), motivation has been used to explain patterns in human behaviour in most situations and settings, which leads to the most important factor in education: 'motivation is a key determinant of learning' (p.3).

Motivation also has been used to evaluate and confirm students' given attention and effort towards a particular learning activity or lesson (Brophy, 2013; as cited in Buckley & Doyle, 2016). Buckley & Doyle (2016) report that the findings of Brophy (2013) has helped to shape teacher's role in modern day classrooms, in which, besides imparting knowledge to students, a teacher must also assess and manage his students' level of motivation via combinations of teaching strategies and approaches at the same time. This had led to situations whereby teachers are responsible to increase their students' level of motivation as it determines the outcomes of the lesson; be it increasing or decreasing understanding. To be more objective, Perlman (2013) discovers that student motivation has been associated with effective teaching and thus it must be considered thoughtfully by all teachers or instructors.

To further highlight the significance of motivation in learning, Deci et al. (2001) and Alsawier (2017) have categorized motivation into intrinsic and extrinsic motivation. Intrinsic motivation refers to internal feelings, urge, determination or drive of learners that make them interested in the lesson and in the process of learning which embodies the lesson per se (Harlen & Deakin Crick, 2003; a cited in Buckley & Doyle, 2016). Intrinsic motivation is said to be inherently present in all human being and can be either enhanced or reduced by the situations or contextual circumstances that embody the learning eco-system itself. Many researchers tend to focus on intrinsic motivation, since it leads to the creation of 'self-rewarding experience which is totally different from external rewards' (Alsawaier, 2017, p. 62). Moreover, Deci et al. (2001) report that intrinsic motivation is an 'innate psychological need for competence and self-determination' (p. 3). It refers to one's innate desires to succeed and satisfaction in whatever learning situation that he is in.

In contrary, extrinsic motivation refers to the feeling of wanting a reward or achieving a target or objective, which is outside the context of content, subject and process of learning (Harlen & Deakin Crick, 2003; Hsieh, 20014; Buckley & Doyle, 2016 and Alsawier,

2017). This type of motivation is strongly connected with B.F. Skinner's Theory of Behaviourist which focuses on reward as the end process of learning. Leaners who are associated with extrinsic motivation prioritize more on achievements which drive and lead their learning process. Unlike intrinsic motivation, extrinsic motivation is easier to be measured as it is tied with quantifiable objects/outcome. Extrinsic motivation is commonly referred to rewards, incentives, and benefits that one could after attaining certain level of achievement. Accordingly, intrinsic motivation is difficult to be measured as it is only experienced and achieved by individual learners and this feeling of satisfaction is not directly seen, quantifiable and measured like rewards, incentives, benefits, scores, and grades.

Experts and researchers have been focusing on the relationship between motivation and learning, including educators and educationists at tertiary education. Pikington (2018) argues that motivation is actually a multi-dimensional trait which could be evaluated in the amount of motivation that a student may have and also in the factors that cause that motivation. This is in line with the classic study of Ryan and Deci (2000) that 'motivation can vary in its level and orientation' (Pikington, 2018, p. 284). Therefore, there is an urgent need to establish a study on student motivation as it impacts on their learning and helps to explain the student learning pattern particularly in Maritime Education and Training institutions (METIs). The findings of Perlman (2015) that students' level of motivation increases if their engagement in learning also increases, further drives this curiosity.

Research objectives

Ideally, this research aims to gain a thorough understanding on student motivation especially when learning conventional STCW course in the online mode. This is an opportunity which has yet to be tapped as the STCW course has been designed to be conducted in face-to-face mode of delivery. The Covid-19 pandemic has left METI with no other choice in lesson delivery and hence, online learning has been the new norm for teaching, learning and assessments (TLA). Furthermore, learning difficulty as experienced during the MCO may impact on student motivation as they grappled with this new norm of learning.

In guiding the whole research initiative, the following objectives have been established:

1. To identify the level of student motivation especially when they learn Maritime English in the online mode.
2. To evaluate the four factors which are associated with the ARCS Model of Motivation in explaining student's level of motivation.

The input gathered in this study will indicate new dimensions in student learning especially in METI. Moreover, they will also help the academy to have more in-depth data and information especially in explaining student performance; as motivation is associated with performance, according to Deci & Ryan (2000), Keller (2006), Buckley & Doyle (2015) and Alsawier et al. (2017). Consequently, there will be meaningful and concrete explanation upon identifying the level of student ***motivation*** which is strongly associated with their ***attention*** in class; the ***relevance*** of the lessons, which will then form their ***confidence*** in the knowledge learned and finally, will lead to their ***satisfaction*** on the overall teaching-learning process.

Research questions

From the above-mentioned objectives, five research questions have been formulated in order to find the answers in descriptive and conclusive manner. The five research questions are listed below:

1. What is the overall level of **Attention** dimension in the study?
2. What is the overall level of **Relevance** dimension in the study?
3. What is the overall level of **Confidence** dimension in the study?
4. What is the overall level of **Satisfaction** dimension in the study?
5. What was the overall level of **motivation** of DNS Semester 2 students when they underwent Maritime English lessons in the online mode during the MCO 2020?

The research objectives will guide the research by providing some highlights on the dimensions that affect student motivation, which has strong association with their academic performance. The findings may not only help to describe the current impact of sudden online learning of the STCW courses but also will help to explain the process that students have gone through, as a result of online learning of the Maritime English subject.

Methodology

Research design and instrumentation

This quantitative study mainly involves the use of online questionnaire developed and expedited via Microsoft Forms application. There are 34 questions in the questionnaire, and all have been fully adopted from Keller's Course Interest Survey (CIS) questionnaire set, developed by John M. Keller in 2006. The CIS questionnaire is directly related to the renown ARCS Model of Motivation, founded by the same author, which is one of the most effective measures in assessing students' motivation in learning, in this case, for Maritime English.

The survey questionnaire set consisted of 34 questions and used 5-point Likert Scale ranging from 1) Not True, 2) Slightly True, 3) Moderately True, 4) Mostly True and 5) Very True. The reliability test on all questions was conducted by using Cronbach coefficient alpha of the SPSS software. The Cronbach coefficient alpha value was obtained at **0.837** for all 34 questions with 78 respondents. Nunnally (1978) proposed the value of 0.7 as the basic reliability for research questionnaire. Hence, it can be summarized that for this study, there is a level of reliability in all questions used in this research. Table 1 below shows the Alpha value for the survey questionnaire.

Table 1. Cronbach's Alpha for Questionnaire

N	Items	Cronbach's α
78	34	0.837

The default reliability value of the CIS scale based on the ARCS Model of Motivation according to Keller (2006) is **.950**. Hence, it can be concluded here that the internal consistency of the scale as being used in the study is satisfactory **(.837**) and also falls under the scale of high reliability.

Respondents of the study

This study was conducted on 78 respondents from Akademi Laut Malaysia (ALAM), Kuala Sungai Baru, Masjid Tanah, Melaka who had just completed their semester 2 via online distance learning mode. Their ages ranging from 18 to 23 years old and they were undertaking Diploma in Nautical Studies and Diploma in Marine Engineering with Maritime English became the STCW subject of focus in this study.

Data gathering procedure

Due to strict SOP (Standard Operating Procedure) under the Movement Control Order (MCO), all respondents could only be contacted via telephone calls and WhatsApp application messages to obtain their consent for participating in the survey. A link to the survey (Microsoft Forms format) was forwarded to each of the respondents and the whole data collection process took two days to complete. The survey was conducted from June 2, 2020 to June 3, 2020.

Data analysis

All collected responses via Microsoft Forms were analyzed by the SPSS software version 24. Before data analysis, all the Microsoft Forms raw format (Excel spreadsheet) were converted directly into SPSS format. Data analysis procedure took place on June 4, 2020 and after two days of deliberation, findings were materialized on June 6, 2020.

Findings and discussion

The dimension of attention (Analysis on research question 1)

Table 2 below presents all survey questions that are attributed to the dimension of Attention in Keller's Course Interest Survey (CIS, 2006) together with their mean scores and standard deviations. Altogether, there are 8 questions that fall under this category and they have been randomly arranged in the CIS Survey Questionnaire as Question No. 1, 4, 10, 15, 21, 24, 26 and 29. In order to increase the reliability and validity of the questionnaire, 2 out of these 8 questions have been recorded into 'reverse questions'. The 2 reverse questions are Question No. 4 and 26 which aim to provide the opposite situation to respondents, so as to be more 'thought provoking' and appeal to reality.

Table 2. Survey Items under ATTENTION

Item	N	Mean	Std. Deviation
The instructor knows how to make us feel enthusiastic about the subject matter of this course.	78	**4.37**	.899
This class has very little in it that captures my attention.	78	**2.62**	1.302
The instructor creates suspense when building up to a point.	78	**3.72**	.979
As a student in this class, I am curious about the subject matter.	78	**3.94**	.944
The instructor does unusual or surprising things that are interesting.	78	**4.12**	.953
The instructor uses an interesting variety of teaching techniques.	78	**4.49**	.734
I often daydream while in this class.	78	**1.92**	.879
My curiosity is often stimulated by the questions asked or the problems given on the subject matter in this class.	78	**4.37**	.775

According to Table 2 above, the highest score in the **Attention** dimension is obtained by Item No. 6, which is '*the instructor uses an interesting variety of teaching techniques*' with the mean score of **4.49**. On the other hand, the lowest score in this dimension is recorded by Item No. 7 above, which is *'I often daydream while in this class*' with the mean score of **1.92**. However, even with a low mean score, this item has been set as a negative item, which in return, needs to be viewed in positive manner as it provides a positive aspect of a negative perception (low score for negative means high score for positive, as prescribed by Keller, 2006). Another negative item tested in this dimension is Item No. 2 in Table 2 above, '*this class has very little in it that captures my attention'* with the mean score of 2.82. Again, the low mean score for this item reflects a positive situation as indicated earlier by Keller (2006). To conclude this section, all the tested items in the dimension of Attention of this study have been considered satisfactory.

The dimension of relevance (Analysis on research question 2)

Table 3 below presents all survey questions that are attributed to the dimension of Relevance in Keller's Course Interest Survey (CIS, 2006) together with their mean scores and standard deviations. Altogether, there are 9 questions/items that fall under this category and they have been randomly arranged in the CIS Survey Questionnaire as Question No. 2, 5, 8, 13, 20, 22, 23, 25 and 28. In order to increase the reliability and validity of the questionnaire, 2 out of these 9 questions/items have been recorded as 'reverse questions'. The 2 reverse questions are Question No. 8 and 25 which aim to provide the opposite situation to respondents, so as to be more variety.

Table 3. Survey Items under RELEVANCE

Item	N	Mean	Std. Deviation
The things I am learning in this course will be useful to me.	78	**4.60**	.566
The instructor makes the subject matter of this course seem important.	78	**4.51**	.639
I do NOT see how the content of this course relates to anything I already know.	78	**1.81**	.954
In this class, I try to set and achieve high standards of excellence.	78	**4.38**	.540
The content of this course relates to my expectations and goals.	78	**4.44**	.713
To accomplish my goals, it is important that I do well in this course.	78	**4.77**	.508
I do NOT think I will benefit much from this course.	78	**1.35**	.641
The personal benefits of this course are clear to me.	78	**4.65**	.577

According to Table 3 above, the highest score in the **Relevance** dimension is obtained by Item No. 6, which is '*to accomplish my goal, it is important that I do well in this course'* with the mean score of **4.77**. On the other hand, the lowest score in this dimension is recorded by Item No. 7 above, which is *'I do NOT think I will benefit much from this course''* with the mean score of **1.35.** However, even with a low mean score, this item has been set as a negative item, which in return, needs to be viewed in positive manner as it provides a positive aspect of a negative perception (low score for negative means high score for positive, as prescribed by Keller, 2006). Another negative item tested in this dimension is Item No. 3 in Table 3 above, 'I do NOT see how the content of this course related to anything I already know' with the mean score of 1.81. According to Keller (2006), the low mean score for this item reflects a positive situation as respondents do not agree with the statement and thus rate

it lowly in the questionnaire. To conclude this section, all the tested items in the dimension of Relevance of this study have been considered satisfactory.

The dimension of confidence (Analysis on research question 3)

Table 4 below presents all survey questions that are attributed to the dimension of Confidence in Keller's Course Interest Survey (CIS, 2006) together with their mean scores and standard deviations. Altogether, there are 8 questions that fall under this category, and they have been randomly arranged in the CIS Survey Questionnaire as Question No. 3, 6, 9, 11, 17, 27, 30 and 34. In order to increase the reliability and validity of the questionnaire, 2 out of these 8 questions have been converted into 'reverse questions'. The 2 reverse questions are Question No. 11 and 17 which aim to provide the opposite situation to respondents, so as to be more 'thought provoking' and challenge the reality.

Table 4. Survey Items under CONFIDENCE

Item	N	Mean	Std. Deviation
I feel confident that I will do well in this course.	78	**4.45**	.714
You have to be lucky to get good grades in this course.	78	**2.82**	1.346
Whether or not I succeed in this course is up to me.	78	**4.18**	.936
The subject matter of this course is just too difficult for me.	78	**2.54**	1.276
It is difficult to predict what grade the instructor will give my assignments.	78	**3.53**	1.041
As I am taking this class, I believe that I can succeed if I try hard enough.	78	**4.41**	.746
I find the challenge level in this course to be about right: neither too easy not too hard.	78	**4.29**	.839
I get enough feedback to know how well I am doing.	78	**4.35**	.770

According to Table 4 above, the highest score in the **Confidence** dimension is obtained by Item No. 1, which is '*I feel confident that I will do well in this course*' with the mean score of **4.45**. On the other hand, the lowest score in this dimension is recorded by Item No. 4 above, which is *'the subject matter of this course is just too difficult to me'* with the mean score of **2.54**. However, even with a low mean score, this item has been set as a negative item, which in return, needs to be viewed in positive manner as it provides a positive aspect of a negative perception (low score for negative means high score for positive, as prescribed by Keller, 2006). Another negative item tested in this dimension is Item No. 2 in Table 4 above, '*You have to be lucky to get good grades in this course'* with the mean score of 2.82. Again, the low mean score for this item reflects a positive situation as indicated earlier by Keller (2006). To conclude this section, all the tested items in the dimension of Confidence of this study have been considered satisfactory.

The dimension of satisfaction (Analysis on research question 4)

Table 5 below presents all survey questions that are attributed to the dimension of Satisfaction in Keller's Course Interest Survey (CIS, 2006) together with their mean scores and standard deviations. Altogether, there are 9 questions/items that fall under this category, and they have been randomly arranged in the CIS Survey Questionnaire as Question No. 7, 12, 14, 16, 18, 19, 31, 32 and 33. In order to increase the reliability and validity of the questionnaire, 1 out of these 9 questions has been converted into 'reverse question'. The reverse question is Question No. 31 which aim to provide the opposite situation to respondents, so as to be more 'thought provoking' and challenge the reality.

Table 5. Survey Items under SATISFACTION

Item	N	Mean	Std. Deviation
I have to work too hard to succeed in this course.	78	**3.96**	.946
I feel that this course gives me a lot of satisfaction.	78	**4.26**	.711
I feel that the grades or other recognition I receive are fair compared to other students.	78	**4.41**	.780
I enjoy working in this course.	78	**4.45**	.696
I am pleased with the instructor's evaluations of my work compared to how well I think I have done.	78	**4.19**	.941
I feel satisfied with what I am getting from this course.	78	**4.32**	.814
I feel rather disappointed with this course.	78	**1.19**	.457
I feel that I get enough recognition of my work in this course by means of grades, comments, or other feedback.	78	**4.19**	.913
The amount of work I have to do is appropriate for this type of course.	78	**4.46**	.697

According to Table 5 above, the highest score in the **Satisfaction** dimension is obtained by Item No. 9, which is '*the amount of work which I have to do is appropriate for this type of course'* with the mean score of **4.46**. On the other hand, the lowest score in this dimension is recorded by Item No. 7 above, which is *'I feel rather disappointed with this course''* with the mean score of **1.19**. However, even with a low mean score, this item has been set as a negative item, which in return, needs to be viewed in positive manner as it provides a positive aspect of a negative perception (low score for negative means high score for positive, as prescribed by Keller, 2006). According to Keller (2006), the low mean score for this item reflects a positive situation as respondents do not agree with the statement and thus rate it lowly in the questionnaire. To conclude this section, all the tested items in the dimension of Relevance of this study have been considered satisfactory.

The overall level of student motivation in this study (Analysis on research question 5)

To address Research Question 5 of this study, it is important to emphasize that the overall (total) mean score for all the items in each category or dimension of the ARCS Model of Motivational Design, namely the Attention, Relevance, Confidence and Satisfaction will be calculated and summed.

The earlier scale of the CIS as proposed by Keller (2006) used scores which totalled the overall scores obtained by the four dimensions as tested on respondents. Hence, to conclude the findings of this study, table 6 below denotes the overall value of Attention, Relevance, Confidence and Satisfaction:

Table 6. Dimensions of the ARCS Model with their mean scores

Dimension	Mean scores
Attention	*3.69*
Relevance	*3.81*
Confidence	*3.82*
Satisfaction	*3.93*

To conclude this section, all dimensions in the ARCS Model of Motivation as tested in the Course Interest Survey (CIS) recorded high mean scores and fell under the category of satisfactory level (mean score >3.5). The dimension of Attention received the overall mean

score of 3.69 while the dimension of Relevance obtained 3.81. Better still, the dimension of Confidence records higher mean score of 3.82 while Satisfaction is the highest dimension of all with the overall mean scores of 3.93. From Table 5, it can be summarized that the lowest overall mean score is recorded by the dimension of Attention, with the mean score of 3.69. Meanwhile, the highest overall mean score of all four dimensions has been obtained by the dimension of Satisfaction, with the mean score of 3.93. The overall mean scores obtained by all four dimensions of the ARCS Model show that respondents in this study, generally, had a satisfactory level of motivation when they underwent the Maritime English course during the period of Movement Control Order (MCO) from March to June 2020. From this finding also, it can be summarized that students were highly motivated by the course and the course trainer as their high motivation level was sufficient to show that learning had taken place. Hence, it can be concluded also that this is in conjunction with the earlier findings that motivation has been attributed to result in meaningful learning, as reported by Maslow (1943), Keller (1979), Gagne (1985), Biggs (1991), Bandura (1994) and Cook et al. (2009). Moreover, it can also be justified that this study reports the same finding with Keller (2010) and Molaee & Dortaj (2015) that motivation is a key factor in learning.

Limitations of study

Like other experimental studies, this research has certain limitations for careful interpretation of results and their generalization, especially in the Maritime Education and Training institutions (METIs). The first limitation is that this study involves only Akademi Laut Malaysia (ALAM) as the sole location of study. The results obtained may not be generalized to other 37 maritime and education institutions under the authority of the Jabatan Laut Malaysia (JLM @ MARDEP). To increase the reliability and validity of study, it is anticipated that the next research in similar capacity could be extended to other METIs as well especially those having the same STCW courses such as Sarawak Maritime Academy, Politeknik Ungku Omar, Universiti Kuala Lumpur (UniKL), and Universiti Malaysia Terengganu (UMT). More comprehensive and conclusive research could be achieved if future studies could be inclusive of all these maritime institutions.

The second limitation is that this study only involves Maritime English (MarEng) as the sole subject of study. The results obtained may not be generalized to other STCW subjects under the authority of the Jabatan Laut Malaysia (JLM @ MARDEP) especially subjects at the same level of studies of the STCW conventions (AII/1: Navigation at the Operational Level). More importantly, more challenging subjects such as Ship Stability, Principles of Navigation, Practical Navigation, Cargo work and Meteorology (to name a few), should be included to determine students' level of motivation.

The number of respondents becomes the third limitation of this study. To be more significant, reliable and credible, it is expected that the number could be increased to be around 100 – 200 respondents. It is further proposed that the next similar research could follow the number of respondents as in Keller's initial research in motivation, which is 200 respondents. However, the number of respondents shall depend also on the number of available cadet officers under training at ALAM or other METIs.

The fourth limitation is the frequency of assessments. Rather than one-tier assessment via the Course Interest Study (CIS) which was at the end of learning period (semester), it is better for future studies to consider a minimum of two-tier type of assessment in order to obtain more significant results. The two-tier assessment as proposed should consider having middle and end period of assessment so that results of both stages could be compared and studied so as to produce more meaningful findings. These shall provide better portrayal of student motivation, whether it diminishes or increases over time, as lessons

unfold. In conjunction with this also, the experiment period should also be extended to cover middle of semester and end of semester in consideration of the two-tier type of assessment.

Conclusions and recommendations

The first conclusion that can be made from this study is that all respondents generally had high level of motivation when they underwent the Maritime English course during the period of Movement Control Order (MCO) from March to June 2020. In conjunction with this finding also, all respondents were therefore expected not to face any difficulty in passing the subject under the new norm of online class facilitation since their high motivation shall lead to high academic performance in terms of meaningful learning (Maslow, 1943; Bandura, 1994; Gagne 1985; Biggs, 1991; Keller, 1979; and Cook et al., 2009). This also proves that motivation is also affected by lesson delivery (pedagogy) and the trainer's initiatives in the overall conduct of the teaching, learning and assessment process (TLAs) as demonstrated in the experiment, as supported by findings from dimensions of Attention, Confidence and Satisfaction. The sudden shift from traditional face to face facilitation to online distance learning has not significantly affected students' motivation and thus, their understanding of lessons and academic performance in the subject are very much anticipated.

Secondly, it is the educator or trainer who plays the most significance role in retaining and enhancing students' level of motivation throughout the online distance learning period (MCO). Many do not realize the actual factor underlying all four dimensions of ARCS in the study, which is the human element @ trainer. Undeniably, it is the trainer's call to design, develop, implement and evaluate his/her teaching, learning and assessment (TLA) activities which strongly influence students' motivation. Hence, this second conclusion has been well-supported by an earlier finding by Tanveer et al. (2020) that the online distance learning is not only about the internet communication and facilities, but also concerns trainer's blended technology training and competencies. It is a fact that the sudden shift to online distance learning has posed great difficulties and challenges to both educators and students' sides (Li and Lalani, 2020; Lisnani et al, 2020; Muhammad Tanveer et al., 2020 and Tam, 2020). Indeed, the trainer has demonstrated remarkable ability in juggling between internet facilities, course content, lesson delivery, student engagement, student motivation and all four dimensions in the research framework (ARCS).

The findings of this study, even though at a preliminary stage like this, provide more insights into online distance learning especially the STCW courses, as regulated by the Marine Department of Malaysia and the International Maritime Organization (IMO). Rather than highlighting on he normally discussed items such as ICT facilities, internet connectivity, teaching slides, class control, attendance to class and etc., the study presents more critical scenarios on student engagement with trainer and subject content, student motivation, student performance, students' confidence with their newly acquired knowledge, the achievement of learning objectives by students, student self-fulfilling prophecy, blended learning strategies and assessments. Hence, it is highly hoped that there will be more studies on these critical scenarios which happen to be the actual factors to be intensively studied in an online distance learning environment.

Acknowledgement

The author gratefully acknowledges the significant contributions of Professor John M. Keller who develops the ARCS Model of Motivation adopted in this study.

References

Alsawaier, R. S. (2017). The effect of gamification on motivation and engagement.*The International Journal of Information and Learning Technology*, *35*(1), 2018, 56-79. http://dx.doi.org/10.1108/IJILT-02-2017-0009

Bandura A. (1994). Self-efficacy. In: *Ramachaudran VS, ed. Encyclopedia of Human Behavior. Vol4*. New York, NY: Academic Press; 71–81.

Biggs JB. (1991). Good learning: What is it? How can it be fostered? In: Biggs JB, *ed. Teaching for Learning*: The View from Cognitive Psychology. Hawthorn, Australia: The Australian Council for Educational Research.

Brophy, J. E. (2013). *Motivating students to learn*. New York, NY: Routledge https://doi.org/10.1111/bjet.12260_6

Buckley, P. & Doyle, E. (2016). Gamification and student motivation. *Interactive Learning Environments*, *24*(6), 1-14. http://dx.doi.org/10.1080/10494820.2014.964263

Buckley, P., Doyle, E., & Doyle, S. (2017). Game on! Students' perceptions of gamified learning. *Journal of Educational Technology & Society*, *20*(3), 1–10.

Cook, D.A., Beckman, T.J., Thomas, K.G. & Thompson, W.G. (2009). Measuring motivational characteristics of courses: applying Keller's instructional materials motivation survey to a web-based course. *Academic Medicine*, *84* (11), 1505-1509. http://dx.doi.org/10.1097/ACM.0b013e3181baf56d

Deci, E.L., Koestner, R., & Ryan, R.M. (2001). Extrinsic rewards and intrinsic motivation in education: Reconsidered once again. *Review of Educational Research*, *71*(1), 1-27. https://doi.org/10.3102%2F00346543071001001

Gagne´ R.M. (1985). *The conditions of learning and theory of instruction (4th ed.)* New York, NY: Holt, Rinehart and Winston

Harlen, W. & Deakin Crick, R. (2003). Testing and motivation for learning. *Assessment in Education: Principles, Policy & Practice*, *10*(2), 169–207. http://dx.doi.org/10.1080/0969594032000121270

Hsieh, T.L. (2014). Motivation matters? The relationship among different types of learning motivation, engagement behaviours and learning outcomes of undergraduate students in Taiwan. *Higher Education*, *68*(3), 417-433. https://doi.org/10.1007/s10734-014-9720-6

Keller J.M. (1979). Motivation and instructional design: A theoretical perspective. *Journal of Instructional Development*, 2(4), 26 –34. http://dx.doi.org/10.1007/BF02904345

Keller, J.M. (2006). *Development of Two Measures of Learner Motivation*. Florida: Florida States University.

Keller, J.M. (2010). *Motivational design for learning and performance: the ARCS model approach*. New York: Springer.

Li, C. & Lalani, F. (2020). *The COVID-19 pandemic has changed education forever. This is how.* Retrieved from https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/ https://doi.org/10.25134/ijli.v3i2.3677

Linney, S. (2020). *How is the spread of the coronavirus impacting higher education institutions?* Retrieved from www.qs.com/how-is-the-spread-of-the-coronavirus-impacting-higher-education-institutions/

Lisnani, L., Putri, R.I., Zulkardi & Somakim. (2020). Designing Moodle features as e-learning for learning Mathematics in COB+VID-19 pandemic. *Journal of Physics: Conference Series*, 1657, 012024, 1-8. http://dx.doi.org/10.1088/1742-6596/1657/1/012024

Maslow AH. (1943). A theory of human motivation. *Psychological Review*, *50*(4), 370 –396.

Maehr, M. L., & Meyer, H. A. (1997). Understanding motivation and schooling: Where we've been, where we are, and where we need to go. *Educational Psychology Review*, *9*(4), 371–409. http://dx.doi.org/10.1023/A:1024750807365

Molaee, Z. & Dortaj, F. (2015). Improving L2 learning: An ARCS instructional-motivational approach. *Procedia-Social and Behavioural Sciences*, 171, 1214-1222. http://dx.doi.org/10.1016/j.sbspro.2015.01.234

Nunnally, J. C. (1978). *Psychometric theory (2nd ed.)*. New York: McGraw-Hill.

Perlman, D. (2013). Effective teaching and motivation: Application of self-determination theory. *Journal of Research, Policy & Practice of Teachers and Teacher Education*, *3*(2), 31-37.

Perlman, D. (2015). The Teacher Care Project: Enhancing motivation, engagement, and effort of a-motivated students. *Journal of Research, Policy & Practice of Teachers and Teacher Education*, *5*(1), 4-16.

Pikington, C. (2018). A playful approach to fostering motivation in a distance education computer programing course: behaviour change and student perceptions. *International Review of Research in Open and Distributed Learning*, *19* (3), 282-287. http://dx.doi.org/10.19173/irrodl.v19i3.3664

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, *25*(1), 54–67. http://dx.doi.org/10.1006/ceps.1999.1020

Salih, M., Mai, M., & Al Shibli, A. (2016). Students' motivation toward science learning in secondary schools in Oman and Malaysia: A comparative study. *Journal of Research, Policy & Practice of Teachers and Teacher Education*, *6*(1), 16-24.

Tam, G. (2020*). 3 Ways the coronavirus pandemic could reshape education*. Retrieved from https://www.weforum.org/agenda/2020/03/3-ways-coronavirus-is-reshaping-education-and-what-changes-might-be-here-to-stay/

Tanveer, M., Bhaumik, A., Hassan, S., & Ul Haq, I. (2020). Covid-19 pandemic, outbreak educational sector and students online learning in Saudi Arabia. *Journal of Entrepreneurship Education*, *23*(3). Retrieved from https://www.researchgate.net/publication/341519892_Covid-19_pandemic_outbreak_educational_sector_and_students_online_learning_in_Saudi_Arabia

Wong, K.-T., Hamzah, M. S. G., & Hamzah, M. (2018). Factors driving the use of Moodle: An empirical study on Malaysian practising teachers' perspective. *Journal of Research, Policy & Practice of Teachers and Teacher Education*, *4*(2), 15-23.