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Teaching workload in 21st century higher education learning setting

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Article Info

ABSTRACT

A standard equation on teaching workload calculation in the previous academic setting only includes the contact hours with students through lecture, tutorial, laboratory and in-person consultation (i.e. one-to-one final year project consultation). This paper discusses teaching workload factors according to the current higher-education setting. Devising a teaching workload equation that includes all teaching and learning strategies in the 21st century higher education learning setting is needed. This is indeed a challenging task for the academic administrators to scrutinize every single parameter that accounted for teaching and learning. In this work, we have discussed the parameters which are significant in teaching workload calculation. For instance, the conventional in-person contact with the students, type of delivery, type of assessment, the preparation of materials for flipped classroom as well as MOOC, to name a few. Teaching workload also affects quality teaching and from the academic perception, the higher workload means lower-quality teaching.

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1.   INTRODUCTION

Rote memorization and teacher centred learning is no longer a way forward in 21st-century learning strategy. Memorization only involves a low level of cognitive and learners who adopt this strategy could not differentiate between important and unimportant information and they were incompetent to make inferences [1]. This strategy is old-fashioned, and it does not emphasize higher-order thinking skills.

Figure 1 illustrated the changes in Malaysian Higher-Education Programmes (MyHE) [2]. From teacher centred, we are now moving forward to learners as connectors, creators and constructivists. MyHE 1.0 is the "spoon-fed" era where the learners were only subjected to receive the knowledge. While during MyHE2.0, we started to use technological device such as projector in class and learners are asked to respond. Project and Inquiry Based Learning (PBL) and social networking started to take place in educational setting in MyHE 3.0. In order to achieve MyHE4.0, the access to the experts are made easily available and the web functioned as the curriculum. The academician functions as resource guide and learners are expected to be content producers and sharers.

Teaching and learning are known as a part of the academician key performance indicators for promotion and annual appraisal. Among other indicators are postgraduate supervision, research and innovation, publication, academic recognition, community services, consultancy and industrial linkages and administration roles/ contribution to the university [3, 4]. Under teaching and learning indicators, there are several criteria are considered: number of courses taught, number of credits for the courses, number of students per course, academic advisory, undergraduate student supervisory and innovation in delivery systems. Based on the existing works and policies at higher education in Malaysia, most of the teaching workload refers to the number of assigned teaching hours, teaching preparation, consultation with students and evaluation of their works and assignments.
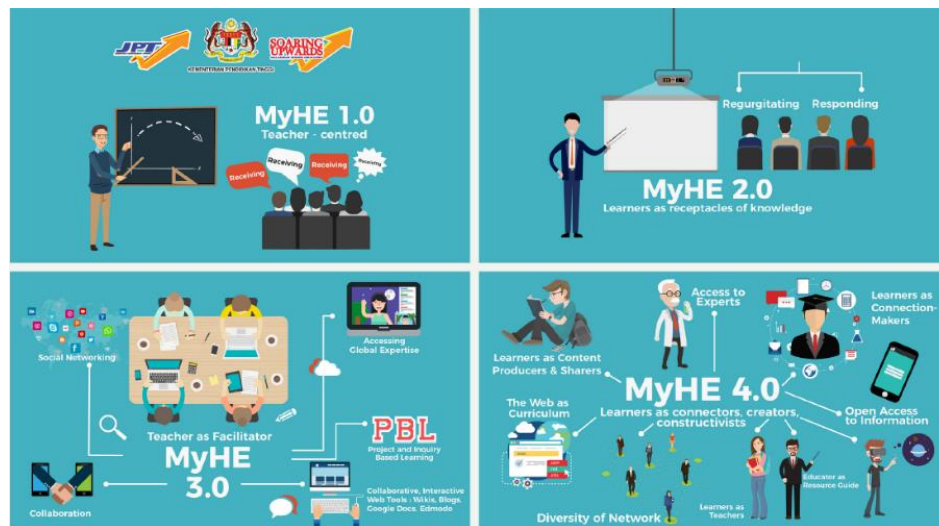

Figure 1. Delivery of Malaysian higher education programmes [2]

A conceptual model, proposed by [5], hypothesizes that teachers' working conditions influence teachers' ability to teach effectively and thus influence students' achievement scores. The working conditions include five classroom-instruction level working conditions: instructional practice support, teaching workload, instructional resources, classroom autonomy, and support for managing student conduct. However, the heavy teaching loads could play a part in giving incentives to academicians to switch to a "content-centred" approach [6]. When this happen, MyHE4.0 will never be realized as the academicians are only focus on the content, not the students.

In the current academic setting, which is designed to follow the 21st learning strategy, these criteria are not enough to describe the workload faced by the academician. This paper discusses the teaching workload among the lecturers by considering the other teaching and learning factors which in line with Malaysian higher education requirements. Section 2 is about the teaching-learning component in the current academic setting and section 3 describes the factors in determining teaching workload. Section four explains the relation between teaching workload and teaching quality. The final section summarizes the findings of this paper.

2.   TEACHING AND LEARNING COMPONENTS

Under the aspiration of surge 1 in Malaysia Education Blueprint 2015-2025, the challenges of graduates' mismatch with industry are highlighted. To achieve this aspiration, public universities need to ensure that the academic programs offered will produce graduates who are competent, holistic and meet the needs of the country's employment.

In conjunction with this aspiration, the Ministry of Education produced different solutions in preparing for the Industry Revolution 4.0 (IR4.0) wave. Among the solutions are Malaysia MOOC, 2u2i, APEL, Gap Year, CEO@Faculty and MEA and My E-Porfolio [2]. These solutions are also part of the elements for future-ready curriculum, which needs to be embedded in our current curriculum to ensure it is competent and relevant in the era of 21st century learning. The three future ready curriculum elements are (1) fluid and organic curriculum structure, (2) transformative teaching and learning delivery and (3)

alternative assessment. The public universities are encouraged to refer to these elements in making sure their academic programmes are remained relevant and competitive in the market.

This indicates that the role of academician in higher-education institutions extends beyond the classroom. With the future ready element, the teaching has gone beyond the plain lecture, i.e. one-way interaction slides, typical lecture and normal hands-on tutorial. Academicians nowadays are encouraged to use technologies to attract the younger generation in the class. With cybergogy approach, Massive Open Online Course (MOOC), flipped classroom [7] and gamification in place, academicians spend more time to develop, plan and implement the alternative teaching and learning approach. In addition, to design an alternative assessment, which is a contra to plain report writing assessment, as well as the colloborative assessment, one needs training and time to prepare the materials. At the end of the implementation, academician needs to analyse wether the method used is suitable according to nature of the course and helping the students the achieve their course learning outcomes.

Integrating High-Impact Educational Practices (HIEPs) in teaching and learning is also part of the education agenda brought by the Ministry of Education. HIEPs are techniques and designs for teaching and learning that have proven to be beneficial for student engagement and successful learning among students from many backgrounds. There are nine elements in HIEPs, and the academicians are encouraged to employ these elements in their teaching and learning. Among the nine elements are (1) Service based Learning (SBL); (2) First-Year Experiences (FYS); (3) Interdisciplinary Approach to Assessment (ID); (4) Intensive Academic Writing (IAW); (5) Collaborative Assignments and Projects (CAS); (6) Empirical Research (ER); (7) Diversity/Global Learning (DGL); (8) Capstone Courses and Project (CAP) and (9) Internship (IN). At Universiti Malaysia Sarawak (UNIMAS), the implementation of HIEPs is a part of the university strategic focus under the Key Performance Index Excellence in Education and Training. During the annual academic audit, the faculty needs to provide the implementation proofs of HIEPs elements in the courses offered. At the faculty level, all suitable courses for HIEPs implementation are identified and course learning plan is laid out at the beginning of each semester. Among the nine elements of HIEPs, SBL requires a lot of preparations in a team-teaching setting and at the same time using the alternative assessments approach.

3.   TEACHING WORKLOAD FACTORS

A study carried out by [8] states that credit-hours reflect more transparently and exactly and calculate as countable units all those key factors characteristic of the professors' work. However, a standard practice of maximum contact hours with students in Malaysian public universities is 18 hours per week which also depends on the post (i.e. tutor, lecturer, senior lecturer, associate professor and professor). These contact hours include all in person activities which consist of lectures/ laboratory/studio and consultation. Among the teaching workload factors that have been considered by the academic administration team are the number of students in a class, the number of credits per course and sharing percentage for team teaching. The contact hour here means the credit value of a course provided to a student.

Without considering the 21st teaching and learning activities, there are factors that often left out in teaching workload calculation. Among of those factors are (i) courses regularly and repeatedly taught over time, (ii) the evaluation types, (iii) pedagogical methods employed, (iv) the amount of assistance available from a teaching assistant(s)/ laboratory demo assistant, (v) the coordination of industrial training and final year projects course, (vi) practicum, especially for counseling and nursing course, (vii) the course coordinator load, (viii) individual private lesson, i.e. music lesson.

Administrating a course is rather burdensome as well, especially handling a large number of students. A course with many students is normally divided into several groups. One coordinator is appointed to be the course coordinator. The role of a course coordinator is to plan the activities, making sure standard course materials are being used, design the assessments and report the learning outcomes achievements as well as the problem to the academic administration. Another concern is whether it is the new course or courses regularly and repeatedly taught over time. As for the former one, academician might need extra time to prepare for the materials and assessments.

In addition, teaching workload calculation needs to take into account the teaching experience of the academician for a particular course. For an experienced academician, it will be quite easy to manage the workload. However, for an inexperience academician, a longer time is needed in preparation. Teaching the same course for multiple groups also needs to be counted in. The time spent on the preparation is minimal compared to teach several groups for different courses. Additionally, for certain universities, the lab demonstrator and tutor are hired to help in the laboratory and tutorial session. A weightage system needs to be introduced to ensure a higher weight goes to the academician with no assistance.

Another scenario is a course with multiple lecturers. This is happening because learning units are divided according to the expertise. The lecturer's burden will be lesser for this type of course.

The usage of information and communication technology (ICT) in the current higher-education teaching and learning setting has become the main means of imparting knowledge and gathering information. Educational applications offer the possibility to bring innovations to teaching practices and at the same time bring challenges for its implementation such as connectivity, portability, flexibility, autonomy of students and new forms of communication and interaction [9]. ICT has changed students' learning behavior, helping to move from content-centered curricula to competency-based curricula, and from teacher-centered to student-centered forms of delivery [10]. Due to this, the public universities are going forward by encouraging the academician to use blended learning, MOOC, PBL, Problem-Oriented Project-Based Learning (POPBL), gamification [11], to name a few. The role of the academician in these teaching and learning methods is to facilitate the learning process. The preparation is indeed requiring an amount of time. To attract the students' attention, the design of the teaching and learning normally will include the recent issues in the country. Therefore, the designs need to be updated every time the course is offered and no such thing as using 100% previous materials.

For medical and nursing programs, there are teaching methods that need to be counted in. Clinical PBL, bedside teaching, ward round, clinic teaching, operating theatre teaching, Clinical Pathological Conference (CPC) and field visit are among the said methods. In UNIMAS, the weightage for each of these teaching methods have been set. Acton et al. [12] reports a significant increase to the average faculty member's workload for workload associated with simulations in surgical education.

Another teaching and learning method that has been highlighted lately is SBL. Through SBL, enhanced opportunities for learning, and personal and social skill development will be provided to learners. They also gain important experience working with diverse members of their communities. However, faculty are concerned about the time commitment involved in developing a service-learning course. For example, matching students with community organizations can be time-consuming. Furthermore, faculty are also concerned that incorporating service-learning into the curriculum will diminish the academic content covered in the course and assessing student learning when much of the learning takes place outside the classroom and without the supervision of the instructor. The coordination of SBL activities in higher-education level requires careful planning due to a short academic week that we have. In fourteen weeks, the SBL project must be planned and implemented as well as the reflection of the activities must be carried out. With clear outlining project goals and outcomes, students need to identify potential community partners and implement the project over time in various stages. A commitment of community also needs to be in place as it will disturb the SBL conduct. Due to this, the workload for SBL coordinator and instructor needs to be considered and assessed properly. Bulot and Johnson [13] estimate that workload commitments for SBL courses could require up to 10 extra hours a week.

Bilgin et al. [14] investigates academic workload implications of Work-Integrated Learning (WIL) assessment for staff at an Australian university. They found out that the assessment of student learning was the single most important contributor to the academic workload which taking on average 2.5 hours per student per semester. Assessments are also part of the teaching workload. As the class-size increase, the hours spent to design the assessment and marking is increased. Obviously, times spent on marking the essay assessments are greater compared to time spent on marking the multiple-choice questions. Furthermore, most of the university has invested in buying the Optical Mark Reader (OMR) machine to assist the academicians. Marking the non-written assessments also requires a lot of time, especially in programming type of assessment, presentation, and clinical examination. According to [15-17], effective feedback is another important provision in formative assessment and potentially time-consuming component of WIL

4.   QUALITY TEACHING IN RELATION TO TEACHING WORKLOAD

Quality teaching refers to the pedagogy involved, that focuses on the process through which knowledge is constructed, produced and critiqued [18]. According to Wain [19], quality teaching only exists if it brings about quality learning. Emphasizing on quality teaching means we emphasize is learning that is meaningful and bring significance to students. To teach well, it takes serious effort to engage students in active learning, a complex process involving cognitive, emotional, and sensory domains that require higher-order thinking [20]. Almuntashiri [21] listed several teaching quality indicators (TQI) which are associated to the ideal academic's approaches Among the TQI are integrating educational technology into teaching, engaging in research-informed teaching and providing prompt feedback to students about their progress. Several TQI listed in [21] are similar with [22]. All those who teach need to be aware of the elements that comprise a 'quality' learning experience for students [23].

Andaleeb [20] claims that the course loads and class size are the main factors that demotivate the academicians to pursue further in their research. [24] proposes that the most successful researchers and those more able for administrative tasks should reduce their teaching and concentrate in those activities. In addition, the imbalance of faculty and student ratio has contributed to the factor of academician not innovating in teaching and learning. Teaching workload of academic staff in public university is increasing due to the surplus number of undergraduate students enrolled in every semester. As the number of students increased, the hours spent on class preparation and administration works are also increased, and it does affect quality teaching.

An empirical study by [25] shown that teacher quality influences their performance in schools while teacher performance was measured by teacher classroom management, commitment, and responsibilities. On the other hand, teacher effectiveness has always been associated with student achievement [26, 27]. Measuring teaching performance is one way to know the quality of the teaching where a higher-quality teaching means a higher teaching performance. In higher education, the standard way to measure teaching performance is by using the student survey which supported by [28]. In UNIMAS, the student survey questions are about the level of satisfaction on course instructor, physical classroom, online learning environment and achievement of course learning outcomes. Students need to fill in the student survey at the end of every semester and permission of taking the final examination only will be provided if the student has fills in the survey. However, the biasness of the student survey is always questioned. Petty [29] proposes the teaching quality calculation as in (1):

$$Q \text{ factor} = \frac{\text{preparation and marking time}}{\text{contact hours}} \qquad (1)$$

In [29], teaching workload is equal to contact hours. From (1), summarizes that quality teaching is very sensitive to teaching workload and proposed that in order to increase quality teaching, one needs to reduce the teaching workload [29].

Constant training in the teaching and learning field are necessary for academicians. States that training and mentoring the new faculty members is part of the effective teaching efforts [30]. In the current teaching and learning setting, academician is expected to provide professional, problem-solving, and interactive learning opportunities in the classroom and beyond. Furthermore, higher-order engagement of students is the demand. With teaching and learning training, academician is expected to be at least ready to embrace the 21st learning. Quality teaching will be achieved if the academicians are fully equipped with all the necessary knowledge in teaching. Therefore, academicians need to invest in attending the training to improve their quality teaching. The time has come where university needs to emphasize teaching in the reward structure and one the criteria in the reward system is the teaching quality [31].

5.   CONCLUSION

In this study, factors that influence the teaching workload is presented. Moving beyond the traditional setting of higher education, teaching workload calculation needs to include all possible teaching methods used across all study fields, assessments and administration. At the same time, quality teaching is very sensitive to academician's workload. Devising a logical, effective and balanced scheme teaching workload are needed, however, challenging task.

The workload of academic staff at the Malaysian public university includes teaching, supervision, research, consultation, publication, and professional development, participation in community service, students' consultation, and administration. Academician workload supposed to include all parameters, i.e. in research, consultation, etc. With this kind of setting, can we give freedom and encourage more 21st teaching and learning activities in the classroom, as we have been charged with other workloads? How do we excel in teaching and learning?

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