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Academic Workloads: Insights from Medical and Non-medical Lecturers' Experience in Universiti Sains Malaysia

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ABSTRACT

Academic workload is crucial for effective educational management, but measuring it is challenging due to varying field-specific demands. This study explored the components of academic workload among medical and non-medical lecturers at a Malaysian public university through a phenomenological approach. Focus group discussions (FGDs) with full-time, permanent lecturers were used to gather insights. The FGDs were moderated, audio-recorded, and transcribed verbatim. Thematic analysis was conducted using ATLAS.ti version 7, following six steps: reading transcripts, labelling meaningful texts into codes, identifying important codes, compiling related codes into categories, labelling categories, and presenting results. Each transcript was coded by two researchers, with final themes discussed for consensus. Twenty-three lecturers from diverse fields (arts, humanities, health sciences, medicine, engineering, pure sciences, and social sciences) participated. Ten categories of academic workload were identified: teaching, research, administration, supervision, quality assurance, external activities, service, assessment, income generation, and continuous education. These were grouped into four themes: educational load (teaching, supervision, and assessment), scholarly activity load (research and external activities), academic quality load (quality assurance and continuous education), and institutional load (administration, income generation, and service). The study highlighted that academic workloads are intricately linked to the multifaceted roles of academics as educators, scholars, leaders, managers, and professionals.

Keywords: *Academic workload, Medical education, Higher education, Lecturer*

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INTRODUCTION

A comprehensive higher education provider offers a broad range of courses across pure sciences, applied sciences, social sciences, and arts, necessitating diverse teaching approaches and, consequently, varying academic workloads for lecturers based on their specific fields. Understanding and measuring academic workload is crucial for effective educational management, despite its inherent challenges due to the differing nature of each discipline. Increasing demands for teaching, research, and community service, coupled with the pressure to enhance quality, necessitate a thorough assessment of lecturers' workloads. To optimise the talent pool within an institution, it is essential to determine, analyse, and manage the time and resources spent on core activities by lecturers. In an era of financial constraints and uncertainties for many higher institutions, a comprehensive understanding of academic workload is vital for efficient resource allocation. Analysing the complex relationship between the quantity and quality of academic workload ensures that all important indicators are considered. Academic workload indicators should differentiate the generic and unique strengths of lecturers according to their disciplines. Flexibility and elasticity in workload measurement are crucial for optimising university functions, ensuring the workload profile configuration suits lecturers despite their differences.

Workloads refer to the assigned responsibilities and tasks that an individual needs to complete (1). Phalestie (2) argues that achievement measures the level of success a person attains, indicating how far an individual has progressed in assessed performance. This aligns with Widhiastuti's (3) opinion that achievement is the outcome of an individual's efforts after completing an activity. According to Lawler and Porter (4), work achievement is the accomplishment obtained by a person from their actions or results. In a broader scope, Jewell and Siegall (5) found that performance reflects how well members of an organisation have worked to meet its goals. This is supported by Markom et al. (6), who state that high workloads can negatively impact work quality and productivity, leading to inefficiency and detrimental effects on physical and mental health.

Workload is one of the most critical issues affecting academic careers (7, 8). Most public university lecturers in Malaysia face common workloads that include teaching, supervision, research, consultation, publication, professional development, community service, student consultation, and administration. However, these workloads vary based on the specific types and missions of their institutions, each having unique targets and objectives. A significant concern is the continuous increase in workload. For instance, from 2007 to 2013, Malaysia saw a 3.1-fold increase in publications, the highest increase in the world (9). Seventy percent of this publishing growth is attributed to five research universities (10). The requirement to publish in international impact journals has become a key performance indicator (KPI), placing a heavy burden on lecturers.

Conventionally, universities have defined the role of lecturers in three areas: teaching, research, and service, with an emphasis on teaching and research (11). The work-life of a university lecturer is largely shaped by their commitment and performance in these areas (12). However, studies have found that salary and job satisfaction are not correlated (13) and

the workload will influence performance (14). Research has shown a U-shaped relationship between workload and performance (15), whereby as workload increases, performance improves, but beyond a certain point, further increases in workload lead to a decline in performance. This study (15) demonstrates the trade-off between the quantity and quality of work.

A clear understanding of academic workload in higher education institutions from medical and non-medical perspectives leads to the efficient and effective deployment of resources in today's rapidly evolving higher education landscape. Beyond the traditional roles of teaching, research, and community outreach, lecturers are now expected to be versatile, adapting to new technologies and norms. This research aimed to explore the components of academic workload among medical and non-medical lecturers in a higher education institution.

METHODS

Study Design

A phenomenology study was conducted among lecturers in Universiti Sains Malaysia (USM) across four campuses: main campus, health campus, engineering campus and Advanced Medical and Dental Institute (AMDI). This study design enables researchers to gather important inputs about the academic workload based on the lecturer experience of the participants. The important and meaningful experiences were explored to identify the essential components of the academic workload.

Participant Background

The participants were the full-time and permanent lecturers working at USM from the four campuses. The participants were from different fields and clusters of expertise that include health and applied sciences, arts and humanities, pure sciences, and engineering. They were also from different rank of seniority (Professor, Associate Professor, and Lecturer) and ethnic groups (Malay, Chinese, and Indian). They had involved in various academic activities such as teaching, research, administration, quality assurance, management, and development of academic programme, and heading department/institution.

Focus Group Discussion (FGD)

This study employed online focus group discussion (e-FGD) as the research method to collect qualitative data based on lecturer experience of participants. A minimum of five e-FGDs was planned, each e-FGD session had three to five participants and lasted for less than 90 minutes. An e-FGD protocol was developed to guide the moderator explore lecturer experience of participants.

Sampling Technique

The purposive sampling was applied to recruit participants from the four campuses based on seniority, gender, ethnic groups, and the field cluster of expertise. These variables were taken into consideration to ensure a good representation of different lecturer experience at the institution.

Number of Participants

In view of the purposive sampling, the number of participants required for this study was guided by the saturation principle (16). Saturation occurs when the data collection does not shed any new information on the investigated issue and similar instances are seen repetitively over and over again (17). The recommended sample size for phenomenological studies through FGD ranges from 7 to 89 participants (16, 18, 19). Therefore, the sample size for this study was estimated to be from 20–80 participants from the four campuses and depending on the attainment of saturation level.

Data Analysis

The FGD sessions were moderated by the principal researcher (MSBY), audio-recorded and transcribed verbatim by a research assistant. Thematic analysis was performed on the FGD transcripts by codifying and categorising meaningful texts as per Saldana's recommendation (20). The thematic analysis was performed using ATLAS.ti version 7 (ATLAS.ti GmbH, Germany). The codifying and categorising processes were performed according to the following six steps: (1) reading the transcripts; (2) labelling of meaningful texts into codes; (3) deciding on most important codes, creating and compiling related codes into categories; (4) labelling of categories and deciding on relevance and associations; (5) deciding on hierarchy/important/representation of categories into themes; and (6) presentation of results (20). Each FGD transcript was coded by a pair of researchers, and that later was collated by the principal researcher (MSBY). The categories and themes were presented to the research team for discussion and consensus.

RESULTS

A total of six FGD sessions were conducted that involved 23 participants from different campuses, seniority groups, ethnic groups, sex, and expertise clusters. The profiles of participant are summarised in Table 1.

Table 1: The profiles of participants

Variable	Frequency
USM Campus	
Main	8
Health	5
Engineering	5
AMDI	5
Gender	
Male	9
Female	14
Expertise cluster	
Health and applied sciences	8
Arts and humanities	2
Pure sciences	8

(*Continued on next page*)

Table 1: (*Continued*)

Variable	Frequency
Ethnic groups	
Malay	18
Chinese	3
Indian	2
Seniority	
Professor	3
Associate Professor	5
Lecturer	15

A total of 10 categories of academic workload were identified that include teaching load, research load, administration load, supervision load, quality assurance load, external activity load, service load, assessment load, income generation load and continuous education load. These 10 categories were themed into: (1) educational load (teaching, supervision, and assessment); (2) scholarly activity load (research and external activity); (3) academic quality load (quality assurance and continuous education); and (4) institutional load (administration, income generation, and service).

Theme I: Educational Load

The educational load refers to the workload related to teaching, supervision, and assessment of learning attainment. Hence, the educational loads consist of teaching, supervision, and assessment loads. These loads are related to the roles of a lecturer as an educator.

Teaching loads

Teaching loads are closely related to the preparation time before or after teaching, in which online teaching requires more preparation time than face-to-face, and the contact teaching time. These loads were clearly mentioned by participants as follow:

> So, as I mentioned about when you asked me about academic work, academic work continuous because I compartmentalised my work into two, so in the office where I has quieter time, away from all the interaction, my work, my academic work related to the research, to the teaching, preparing teaching materials meaning time where I can use my clear head to think. (FGD1)

> I think that's what been continuously in fact what been said before COVID so we cannot escape from that anyway, but the most important thing is the one that, what we called, we have to do extra work, for lecture of course you already done that, preparing late night lecture. (FGD1)

> More effort, as in like we had to learn a lot of new software, you have to come up with the so called a sophisticated and also interesting online lecture. We need to sometimes record the what the electrical asynchronous web. I'm come out with a lot of a high-tech video or whatever high-tech you know. What I cannot even use the word so, it is like we have to learn the software and learning a software sometimes takes time and with some benefit and there are heaps of software we don't know which one, or which

> software to be used and so on. Even if we use this kind of software sometimes aborted and it has to be higher, higher windows or higher version of Windows for it, so that it is perfect. And a lot of time will be consumed on the preparing the preparation for the lecture. (FGD2)

> I think it's been an interesting learning process for everyone, but yeah, definitely I would say now preparing for a single lecture probably takes five times longer time compared to the pre-COVID days. (FGD3)

> Uh, because every semester we teach the same subject and I have been teaching the same subject for the past 10 years, so the preparation for the materials is not very difficult because it's basically a recycling most of the materials because my courses mostly are theoretical classes, so you cannot go wrong with the theory. (FGD6)

> Yeah, teaching and learning, it's certainly a core activity for a lecturer, an academic and teaching and learning can be at many levels at the course level, the usual dry stuff, including teaching at the classes where you need to prepare lectures but and of course, if that lecture topic has been consistent, then you can just every year just update a little bit to make it more relevant with time. (FGD6)

Supervision loads

Supervision loads are closely related to the time spent for a meeting, monitoring, coaching, guiding, and reviewing students' works, and dealing with students' issues either at the undergraduate or postgraduate level. These loads were clearly highlighted by participants as follow:

> In term of supervision is also the student may face in field work or in their analysis of the model because sometimes you think the students are equipped with the skills and they are not. And you would have to teach them rather than letting them explore because of time constraint so all these would be unplanned work and parachute in and affects timeline and research supervision. (FGD1)

> I believe also I agree with A and academic workload involves a lot on student because that they are main stakeholder… client so like D has mentioned this time also we do a lot beyond just disseminating knowledge, we actually have to deal with student's issue and problems on the ground and we try to help them, so, our focus a lot more on students. That's my personal experience. (FGD1)

> Extra working hours always will be focused on reading students' materials actually, for example, thesis evaluation on thesis you know they give you first draft, second draft. (FGD3)

> Other than that, teaching, we have to supervise normally each lecturer would be required to supervise for FYP [final year project] undergraduate students, and uh, I just sent to that for the for the division that I'm serving, we have two postgraduates by coursework programmes and for these two programmes we are required to supervise three final year project the coursework programmes. (FGD4)

> We expect them to write a proposal, we expect to get them to supervise their students, we expect them to help the students write a paper, so this is what I mean. We expect them to supervise the student to do a research everything and involved in the research. (FGD5)

> Correcting their writing their manuscripts, you know giving idea on how to do data analysis, and again, all of this, especially when you talk about research degree, there's no sets of standardised, where hours or some kind of syllabus that we can follow those groups or that right. (FGD6)

Assessment loads

Assessment loads are closely related to examination time, questions preparation time, vetting time and marking time. These loads were clearly expressed by participants as follow:

> And now we have to do mock tests before midterm. So that they know, what the midterm exam is going to be like also, they will be very nervous. They will want to know how to do, but sometimes can't make sure during mock test they're doing fine. But during the real exam they have problems that we have to solve those problems. (FGD3)

> So, we've got our BPK [*borang penawaran kursus*] which is the birth certificate and then we have to follow making sure that it's in line with our teaching plan and then of course we have to ensure the course attainment so course attainment must measure up with the assessments that we give. So, we need to separate say for example course learning objective number one. Which question is that? Assessing course objective two, which one is the assessing. So that takes a little bit more thinking on our part because we have to separate it when we need to keep in the marks. We will need to assess the achievement of the student individually for each CO [course outcome], so that is a that's quite a lot to think about, we still learning, but still executing so. (FGD3)

> For me it used to be easy marking physical assessment. I mean where there is submission, everything in hardcopy is easier for lecturer to mark and assess and especially face to face and also submission physical submission. So, it was easy because it doesn't take too much time. But during this time, I think it takes me longer time to do the assessment. For example, if, let's say, test submission or assignment submission, everything is online and not the quality of content, but the quality of scanning everything and then reading through the screen. It was really difficult and tiring. (FGD3)

> I think the most challenging part at this point of time is not the marking part but actually preparing quality questions to maintain the quality of the certification that we are giving, especially in in providing the best specialists in the country, we need to come up with the best question so that we will maintain the quality of each specialist. (FGD4)

> When we say teaching is the entire process from A to Z, from the preparation until you until you submit the final report, I mean, the assessment of your what we call the final exam marks and we do need to do the what the analysis of the exam and everything. (FGD5)

Theme II: Scholarly Activity Load

The scholarly activity load refers to the workload related to research and external activities such as writing manuscripts/research grant proposals, submitting manuscripts/research grant proposals, managing research works/grants, and engaging industry/community/society for disseminating the current knowledge and best practices in the field. Hence, the scholarly activity loads consist of research and external activity loads. These loads are related to the roles of a lecturer as a scholar.

Research loads

Research loads are closely related to the time spent writing manuscripts/research proposals, submitting manuscripts to the journal, applying for research grants, revising manuscripts/grant proposals, and managing research works/grants. These loads were clearly echoed by participants as follow:

> Like research I do, few works I have to interview, recruit enumerators and getting the response and cooperation from respondents, those are unplanned because actually prepare three months to do work and so forth and sometimes we may not even achieve our response rate. (FGD1)

> Once you get the grant, because usually you submit for grant proposal application it is more concept paper, but when you come to when you get to the funding, you have to submit again another proposal which more detail to the ethics committee and you have to do it in very short time and amount of information in application. It is a lot of time for then to actually go ahead with your research after you get proposal. The time taken from preparing the detailed proposal to the ethics committee and waiting for ethics revision, it can be quite stressful and taxing before you actually can get on the ground to start the field work. (FGD1)

> That's to me the first page where it is time taxing for in term of research. And second part would be taxing the pressure on publication within time limit and stress on waiting from the journals for decision that time taken also very taxing because even you just waiting, the stress is there because you do not know when you going to get response and the extent of it, if rejected where do you have to find another journal and things like that. To me these are two main stressors on the research besides fieldwork. (FGD1)

> Another one taxing I would say preparing proposal for grant application, the time consumed probably not that long probably about three weeks or maybe the longer or months. So, we have to come out with an idea and proposal, do a literature review survey and we come out with proposal. So normally the deadline for the call quite very near so we have to [inaudible] during that period of time, not for the whole year but that period of time. Yeah. But sort of the whole year I think most taxing thing is organising and that consume a lot of time, I am not saying very taxing, but it consumes a lot of my time. (FGD2)

> I think it would depend on what at what stage of your career development you are right, now at my stage, I do think that research deserve an important component. I have passion for research so in terms of workload, it may go as high as 50%–60% of my time. Again, this is also partly because you know at my stage, we need to supervise student, we need to supervise PhD, we need to supervise master students, we need to achieve the grant objective, which is again a very heavy workload. (FGD6)

So, one is writing up right research proposal, second is writing manuscripts and again, writing manuscript is it is it can very heavy again. You need time to do proper literature search. you need to think through what you need to write; you need to correct the grammars. (FGD6)

Some people will just publish here and there, but there are people who publish, you know, sometimes you know publication is not something you do overnight. Today you send paper for publication, you may get rejected even if you get the paper published then you know it could be next year. So maybe this year you don't have any paper being published. (FGD6)

External activity loads

External activity loads are closely related to the time spent on activities that involve community, industry, academic/professional networks/association, and society. These loads were clearly expressed by participants as follow:

We have this programme where we work with the Asian members, selected universities in Asian and with selected universities in Japan what we called that university networking for science and education where we are to train our member institutions in Asian countries to develop EFI [electronics for imaging] manpower to serve their nation in areas of engineering. (FGD1)

Much load for the when you involve with the external party onwards because I myself spoke-person for the one of supplier company and basically what I appointed for giving lectures with external lectures to the officers, dental officers and technician and conduct the workshop. I found it really help me to build my confidence in more teaching and practicing. And at the same time, it doesn't interfere or affect much my internal academic load on own school. (FGD1)

On top of that, it could be a more community level where we are also involved in, you know, some of these are voluntary zone work, uh, not just that, but, on the personal level, we are also involved in in some of these societies, like I myself, I'm the President elect for a Malaysian society that those society posts mean that we have to be responsible for many of these society activities, including organising meetings... Uh, so those are the society work which is important not just as a personal level, but it does enrich us being academic, right, not other than other than that, of course, like I mentioned, that could also be a national commitment where we are sort of like invited as external evaluation, say for the CPD [continuous professional development] for say, the Malaysian Medical Councils. (FGD6)

For example, at the national, a pharmaceutical agency where we are asked to review. uh, some of these you know, new compounds in the market and also that we can sometimes be even it invited you to give our evaluation for some of these national policies. (FGD6)

I would say like, you know, invited you are being invited for speaker. And then you have to represent the university or represent the VC [Vice Chancellor] or represent the DVC [Deputy Vice Chancellor] for certain events. And then you have to be engaged in, uh, setting up certain initiatives that are optional but expected from you. (FGD6)

Theme III: Academic Quality Load

The academic quality load refers to the workload related to quality assurance and continuous education activities for a better quality of education. Hence, the academic quality loads consist of quality assurance activity and continuous education loads. These loads are related to the roles of a lecturer as a higher education provider.

Quality assurance loads

Quality assurance loads are closely related to the time spent on quality assurance documentation, quality assurance preparation, and accreditation/audit exercises by the internal/external quality agencies. These loads were clearly expressed by participants as follow:

> I am sure also very familiar with OBE [outcome-based education] now but in engineering we now being tied down with extra work by accreditation board, so we have to do whilst extra paperwork to ensure that we get accredited. So, this comes in every five years but in between intermittently two or three years coming again. So, this extra work putting a lot of pressure on some of our academic in engineering. I would say even by myself being senior member takes time to respond to need of accreditation exercise. A lot of these paperwork really push us to the border sometimes. (FGD1)

> And also, has mentioned by other participant, OBE part the paperwork, the rigidity of OBE sometimes takes up a lot more time from us because they are compliance documentation that needs time to for us to prepare besides just us delivering our lectures and trying to meet our learning objectives. So besides learning objectives, we still need to do documentation, and that takes a lot of our time. (FGD1)

> There are times where the administrative work takes bigger time especially if let's say we are submitting for accreditation, for example, I still remember the days when we have to prepare our application process. It takes months of working and committing only to that particular work. (FGD3)

> We need to require two accreditations. One is MQA [Malaysian Qualifications Agency], another one is EAC [Engineering Accreditation Council] board so this one something like I think documentation and administration of these documents I think it takes more time than we prepare than we prepared slides and then the content for the students again because like I was for EAC, we need to prepare before even after. OK, before preparing, before start class we need to fill up a lot of documents for EAC requirements and then teaching. Also, we need to prepare the slide and after we finish complete the semester we need to secure back the whole semester previous OK by the communication by keeping all the evidences slide must be tally with all this you know requirement by board and etc. I think that's the most taxing time that takes from us because before teaching we need to prepare a lot of documents even after teaching as well. A lot of the document and administration process that's all. (FGD4)

> Ummm... from my experience, the toughest part or component in academic workload for me is the administration and the paperwork involving the curriculum.

> At that time being a clinician and at the same time I have to go through all we call it course offer form (BPK). So, at that time that document it was so alien to me but from my observation, the seniors are also struggling with that document, so I have no one to refer to and we keep going you know, keep go going through the BPK again and again and again. We keep doing the same mistake again, so it's very I would say it's draining, and it took so much time. So, I just feel my time and my energy was wasted doing all these paper works which no one knows what they're doing. (FGD5)

> From my own experience, I have to go through this big document. I would say sometimes I don't know what I'm reading because the terminology, the nomenclature in the in the in the document are so technical I would say if those in the admin position if they have, if they have worked for many years, then they it will be easy for them to read the document and understand and execute or whatever the documents are ask you while doing the curriculum review or proposing a new curriculum. (FGD5)

Continuous education loads

Continuous education loads are mainly related to the time spent on self-improvement/ learning activities by attending courses, seminars, or conferences. These loads were clearly expressed by participants as follow:

> Not just to educate and to nurture our future leaders but also, we need to ensure our own academic interest to go on. ...continuous education basically means that you know we have to attend our conferences to upgrade ourselves or attend courses. And for, of course, for like us in our current position, we also being upgraded to become even speakers, we actually give lectures to our own colleagues. We are actually teaching our own colleagues as well. So, there are there are two things that we actually learning ourselves and we are also an imparting our knowledge to our colleagues to certainly to at the advance you know the few and research which is a big component as for our academic will really enhance the value, um, although it's heavy, I mean it's certainly heavy because we need to dedicate a certain amount of time. (FGD6)

Theme IV: Institutional Load

The institutional load refers to the workload related to administration, income generation, and services for the sustainability of institution. Hence, the institution loads consist of quality administration, income generation, and service loads. These loads are related to the roles of a lecturer as a leader, manager, and professional.

Administration loads

Administrative loads are mainly related to the time spent on meetings (planned/urgent/ ad hoc/representative), preparation for meetings, administrative works, and documentation activities. These loads were clearly expressed by participants as follow:

> The worst thing about administration is all last minute. You get last minute notice and suddenly you have to do everything at last minute even though at the same time you are bound to do work on with your student, lectures in fact, even research work. (FGD1)

> I would say that the non-bound working hour because let us say if you are involved in administrative post, probably for the programme chairperson for certain things, during the office hours, you have a lot of meetings because when you, are the chairperson, I you will be involved in other meeting as well, probably meeting with dean or meeting with postgraduate or more meeting whatever. (FGD2)

> I think sometimes knowing how the marks are distributed so some people will say oh if I'm in so and so committee with you, but I'm holding a smaller position, I'm not going to get a lot of marks, so maybe I think that sometimes also discourages people from working, and so, especially if you hold like bigger admin positions, you do end up spending a lot a lot a lot of time on admin work. (FGD3)

> I have become a chair for few committees because other lecturers don't hold any position in the in PTJ [*pusat tanggungjawab*] because at the end they can achieve they can produce something that related to their core jobs, but for us for us who involved for the more administration things, doesn't achieve that particular KPI for that particular year. (FGD4)

> Administrative is necessary, without good admin you do not have a proper school. I agree that someone has to do the administrative work, but it is not translated well in your annual performance appraisal, KPI, promotion and so on. (FGD4)

> I agree on the administration work is putting on burden to youngsters, especially people like me less than five years of service. (FGD5)

> At this juncture, being the HOD [Head of Department], I would say that the most taxing workload is the admin work. Uh, even though this you know, it is hard to balance both works at the same time. You know most of my days, if I were to come to the office, you know, from nine to five is filled with solving administrative methods. (FGD6)

Income generation loads

Income generation loads are mainly related to the time spent on to generate incomes to institutional through clinical/industrial/professional consultations/services, organising conferences/courses/seminars/trainings, and activities to bring more students. These loads were clearly expressed by participants as follow:

> Probably part of committee of organising a conference, probably committee organising a workshop, we have a lot of preparation that had to done like involve in location, involve in venue, you have to go to the venue to do a survey to get permission. (FGD2)

> Other services probably like, uh, testing services like doesn't mean that in the lab, have to go to the lab and do some experiments just samples from the outside companies, send samples, but then they don't have a company to help. Maybe they don't have the outboard and have students to help so they have to do it themselves. So that's also part of quite active part, and although they are take all the in the consultation fee, but then time spent was not actually tally with the whatever consultation fee that they actually got it. (FGD2)

OK yeah, because I am in engineering field, I should deal with a lot of industrial issues and problem and then in the industries especially in engineering there always looking for the academic who are expert in matter particular case or field. But sometimes we receive a lot of requests from industry to become a consultant, but sometimes I I need to refuse the offer from them because once you receive the once you accept the request. So, mean that you must commit to deliver the output of the consultation programme. But of course, I always put in mind the first our job is the academic. (FGD4)

I would like to add when experience about income generation, there was a time when our VC said we need to generate income. The lecturers need to generate income and I've been among the cohort that happened to put down so much on thinking of what are the things that we can do to generate money for our school and guess what? For one workshop only it took about few months for us to spend on that. We even uh, to handle on, promote that workshop, which is not even counted for our KPI. (FGD5)

So, they would say you know, as an academics, I should not be involved in income generation because finding consultation work from outside you know is also part of income generation and then you know organising international conference that are successful and give high return that is also part of income generation. Similarly doing trainings, you know, for community, for businesses, for industries, all these are basically part of income generation. (FGD6)

Let us to think about how we can generate income in order for us to, you know, improve our infrastructure and so on and this is actually quite difficult cause as the academics, but not really taught, uh, you know, to generate income beyond that, um, I mean, I, I do find it rather difficult initially. Oh, and then there will. There are not a lot of opportunities also partly because we are in, uh, in Kelantan, on which has a very unique situation, geopolitical wise. (FGD6)

Service loads

Service loads are mainly related to the time spent on providing clinical and professional services such as treating patients, providing consultations without monetary, as an invited speaker, and reviewing manuscripts for journals. These loads were clearly expressed by participants as follow:

My clinics for one whole day, so you have like a two clinics per session and you have OT's [operation theatre] GA [general anaesthesia] cases. ...So, um, sometimes the services, if it's not that because for services for clinics you have to actually, if you are treating patients, you have to think to give them the best treatment, and if they have problem you have to get the diagnosis. So sometimes there is additional reading, but if your patients survive all the treatment that you give. It is actually a very rewarding feeling to you. (FGD4)

I think clinical services will be the most taxing part because, OK. I am in a field of radiology, so I need to report. I need to be very meticulous. I need to sit down and look at each image meticulously and in details so that I will not actually prevent myself from not looking at any abnormality. Covering most of the, a lot of my modalities at one time like CT scan, MRI and doing ultrasound with the radiography, mammography, everything so I would agree that clinical services would be the one that actually be the most taxing part in my career as for now. (FGD4)

> In my case, for example I involved with ministry in term of grant evaluation...we get invitation to evaluate grant time and again we are being called and summoned to ministry to sit down, work on some issues, but those are sometimes not planned for us. So suddenly they just ask us can you come over. (FGD1)

> We're trying to review the manuscript and timeline given was quite short. When I was trying to review the paper then there would be like emails of a peer review of other papers or other manuscripts that in. Um, well, some of the journals quite a high good impact factor and sometimes I feel so reluctant to reject it because it's like some kind of recognition because were invited for review. (FGD2)

> This year, for me has been different because I'm involved in COVID work, so of course to us here a lot of us here, that's the main priority. So suddenly you'll get a call you know we have a new cluster to deal with our, you know looking industry. For example, someone design and something new that they want to test because they want to release to the ministry as soon as possible, so like I said, it's a bit of a unique situation because obviously we would prioritise that because for us it's not just about the University anymore, but it's about the nation and whatnot. (FGD3)

> We are also speakers, we are invited to speak for meetings, we need to have time to prepare for those power points, for those talks, which again when you spend those time, you need to think about the content, you need to do literature resource search, you need to again, you know, even talk to the people, the organisers of the conference, what, what, they, what they need from us, and so on and so forth. (FGD6)

The qualitative analysis demonstrates multiple academic workload themes and categories that are carried out by the medical and non-medical lecturers in USM. The themes and categories are illustrated in Figures 1 and 2.

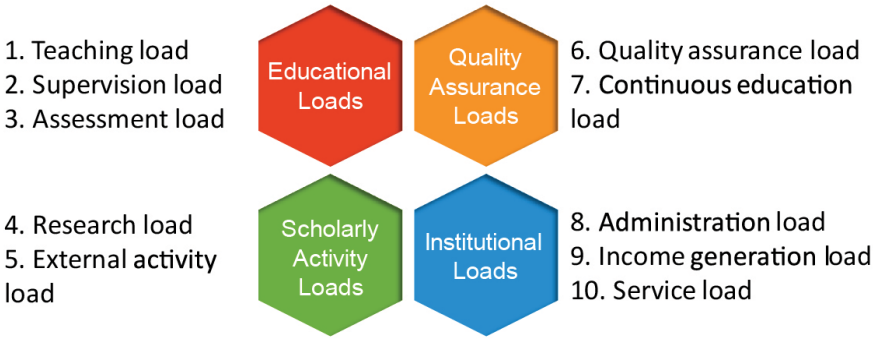

Figure 1: The academic workload categories based on the participants' experience as lecturers in a higher education institution.

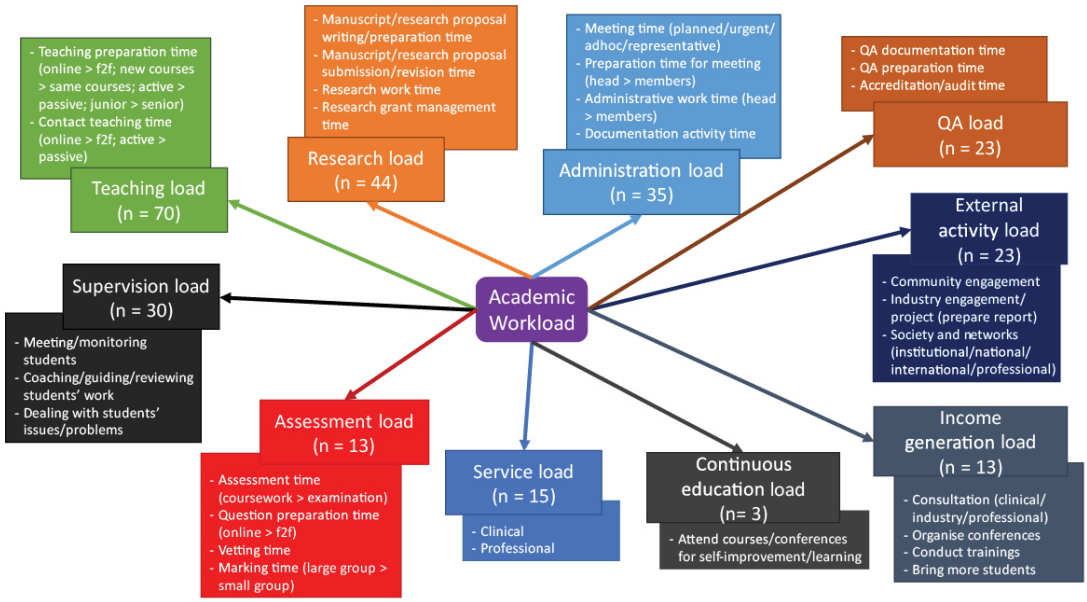

Figure 2: The academic workload themes based on the participants' experience as lecturers in USM.

Note: f2f = face-to-face; QA = quality assurance; n = the frequency of codes supporting a specific theme.

DISCUSSION

This research reveals several important themes and categories of the academic workload from medical and non-medical lecturers at a public higher education institution in Malaysia. Four overarching themes of the academic workload that include educational, scholarly activity, academic quality, and institutional loads are identified. First, the educational loads comprise three main categories related to teaching, supervision, and assessment activities. Second, the scholarly activity loads comprise two main categories related to research and external activities. Third, the academic quality loads comprise two main categories related to quality assurance and continuous education activities. Lastly, the institutional loads comprise three main categories related to administration, income generation activities, and services. These themes and categories of academic workload reflect the roles of lecturers as educators, scholars, educational leaders, educational managers, and professionals (21).

Educational Loads

Teaching, supervision, and assessment are fundamental activities that lecturers perform throughout an academic year (12, 14, 21–23). In this study, teaching loads encompass the preparation time required before any teaching sessions, whether face-to-face or online, and the contact time spent engaging with students. According to Soliman and Soliman (21), teaching preparation includes creating lecture notes and updating materials with recent data and findings. Interestingly, lecturers require more time to prepare for online teaching compared to face-to-face sessions. Active and passive learning also impact preparation time. For example, tutorial classes are content-rich and often combine various activities, requiring substantial preparation (23). During the COVID-19 pandemic, lecturers had to learn new software for online teaching, a time-consuming process, especially for non-tech-savvy lecturers (24). Junior lecturers often need more time to prepare lecture notes from scratch, while senior lecturers can reuse materials, updating them as needed.

In this study, supervision loads refer to the time spent meeting, monitoring, coaching, guiding, and reviewing student work, as well as addressing student issues. Effective supervision requires both internal motivation (passion and experience) and external motivation (institutional support, student attitude, and training). Supervision becomes burdensome when students lack the necessary skills or training for fieldwork. Supervisors have three main roles: providing expertise in the research area, offering mental and psychological support, and ensuring the research is scientifically sound. Supervisors must frequently meet with students to guide their research, especially during the writing stage. They also need to help weaker students and those with language difficulties, which requires additional effort. Research has identified three major challenges in postgraduate research: research design, data collection and processing, and report writing (25). Supervisors must allocate more time, effort, and energy to guide students through these challenges, acting as confidantes, intellectual mentors, resource managers, grant writers, change managers, personal motivators, writing teachers, editors, career mentors, and networkers (26–28).

Assessment loads refer to the time spent preparing examination questions, vetting or reviewing questions, and marking students' answer scripts. Coursework assessment usually takes more time than marking examination scripts, as assessments must align with course learning objectives. Gibbs et al. (29) noted that finding the right level for student work and the lack of explicit departmental guidelines are central problems in marking. Lecturers need skills in communication, creativity, confidence, patience, control, and commitment. The COVID-19 pandemic shifted teaching and assessment to online modes, posing challenges for lecturers unfamiliar with the latest technology. Amini-Philips and Okonmah (30) reported that adapting to online teaching and assessment added pressure and responsibility on lecturers, who had to allocate more time to ensure the quality of student assessments.

Scholarly Activity Loads

In the academic world, research and external activities are essential for lecturers to stay current with advancements and connect with the educational community. In this study, research loads refer to the time lecturers spend on writing manuscripts or research proposals, preparing or submitting manuscripts to journals, applying for research grants, revising manuscripts or grant proposals, and managing research projects or grants. These activities align with the role of lecturers as researchers (21, 31). At research-intensive universities, publications are crucial for disseminating knowledge and measuring success from grants (31). However, lecturers expressed stress from the entire process of writing and publishing, including time spent on literature review, waiting for manuscript decisions, and handling rejections. Research work is time-consuming and can be distressing, especially when applications or manuscripts are rejected. They highlighted the lengthy process of securing grants, including waiting for ethics committee approval. Despite these challenges, they recognised the importance of research and student training. Supervising students while fulfilling research objectives is taxing, particularly for those with multiple postgraduate students.

External activity loads refer to the time lecturers spend on activities involving community, industry, academic, professional networks, and society. Lecturers viewed these activities positively, finding them enriching and stimulating. Unlike the stress of securing grants and writing papers, external activities allowed them to engage in different tasks and contribute to society, balancing their efforts with rewards (32).

Academic Quality Loads

Academic quality is crucial for delivering high-quality higher education. In this study, academic quality loads refer to the time lecturers spend on documenting and preparing quality assurance documents for internal and external audits and accreditations. Many lecturers expressed concerns about these activities, as they significantly increase their workload. For example, preparing paperwork for the accreditation programmes in Malaysia, which has a five-year cycle, that require at least one year of preparation (33). The accreditation process varies by country, with some using peer-run programmes and others adhering to federal standards. In Malaysia, the Malaysian Medical Council (MMC) and other accreditation councils set the standards for their respective degrees, and this process can encroach on teaching and research time. Even experienced senior lecturers find the paperwork burdensome, while junior lecturers, lacking guidance, struggle further. The challenge is compounded by unfamiliar technical terms and extensive paperwork required for OBE (34). Even though the OBE aims to enhance educational quality, but it involves significant documentation processes that impose substantial workload on lecturers.

Another aspect of academic quality load is continuous education, which involves time spent on self-improvement activities like attending courses, seminars, and conferences. Lecturers highlighted the importance of continuous learning for personal and professional development, equipping themselves for new roles and training colleagues. Although this self-initiated learning is valuable, it adds to lecturers' workloads (35, 36). Continuous education helps lecturers stay updated with the latest knowledge and practices, ultimately enhancing institutional productivity and lecturer expertise (37).

Institutional Loads

Institutional loads are crucial for the smooth operation of universities, covering administration, income generation, and services. This study categorises institutional loads into administrative, income generation, and service loads, aligning with the concept map of academic workload proposed by a previous report (21). Administrative loads encompass the time lecturers spend on meetings (planned, urgent, ad hoc, or representative), meeting preparation, administrative work, and documentation. These tasks are time-consuming due to bureaucratic challenges and the need to meet KPIs. The burden increases with unplanned meetings, conflicting with other commitments. Inefficiencies in bureaucracy can lead to unnecessary workloads, highlighting the importance of clear job descriptions for staff.

Income generation loads refer to the time spent on activities that generate income for the institution, such as clinical, industrial, consultation services, organising conferences, and attracting students. UNESCO defines income-generating activities as small-scale projects that promote self-determination and integration (38). Given the reduction in financial allocations to public universities due to the financial constraint (39), such activities are vital for financial sustainability. Lecturers noted that income generation tasks require significant commitment from lecturers, including idea collection, planning, market surveys, and dealing with industrial issues.

Service loads involve time spent on providing clinical and professional services, such as treating patients, offering unpaid consultations, serving as invited speakers, and reviewing journal manuscripts. At institutions with a university hospital, medical lecturers who also serve as doctors experience different service loads. For instance, treating patients and

reporting on medical modalities require additional time and measurements. Unfortunately, KPIs for service tasks are often poorly defined across fields, contributing to dissatisfaction among academic medical staff and potential burnout, which is a critical factor for leaving academia (40). Non-medical lecturers also face service loads including non-monetary consultations, speaking engagements, and protocol reviews.

Implications and Recommendations

This study reveals the broad range of responsibilities that full-time and permanent lecturers must manage, including teaching, research, administration, supervision, quality assurance, external activities, service, assessment, income generation, and continuing education. The evolving nature of academic roles over the past decade has led to increased stress and compromised work-life balance for lecturers. To address these issues, university management should proactively support lecturers dealing with the increased workload. The elevated stress levels and unmet work demands may reduce productivity and commitment, potentially impacting the long-term viability of research-intensive institutions. Employee assistance programmes that inform staff about distress symptoms and provide support should be a fundamental requirement.

The study highlights the need for effective training in educational technology, digital literacy, and ongoing technical support for lecturers. Future research should focus on identifying the specific types of training needed and examining the long-term effects of changing job roles on university productivity and global ranking. Additionally, understanding how these changes affect lecturers' wellbeing is essential for maintaining a sustainable work-life balance.

From an organisational behaviour perspective, lecturers' multifaceted roles and identities are crucial for understanding their work-related stress. Lecturers should be involved in reflecting on pedagogical practices and the impact of their responsibilities. Universities should develop job allocation strategies to prevent burnout and poor wellbeing by managing staff-student ratios, enhancing administrative support, setting realistic research output goals, and balancing diverse responsibilities.

Given the complexity of modern universities, with varied disciplines and responsibilities, standardising workload expectations is challenging. The rise in student numbers, technology use, diverse student backgrounds, and globalisation adds pressure on lecturers. While lecturers under pressure may achieve KPIs, this does not always translate into job satisfaction. To enhance productivity, universities must find strategic ways to support lecturers within resource constraints, ensuring that career development is adequately supported despite heavy workloads.

CONCLUSION

This study proposes 10 academic workload categories that are related to educational (teaching, supervision, and assessment), scholarly activity (research and external activity), academic quality (quality assurance and continuous education) and institutional (administration, income generation, and service). These academic workloads are closely related to the roles of a lecturer as educators, scholars, leaders, managers, and professionals.

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ETHICAL APPROVAL

This research was approved by the Human Research Ethics Committee of Universiti Sains Malaysia (HREC USM) (ethics approval code: USM/JEPeM/19110789).

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