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A STUDY OF CLASSROOM MANAGEMENT AT UiTM SARAWAK BRANCH, SAMARAHAN CAMPUS

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ABCTRACT

The expansion of academic programmes at UiTMSBSC and the subsequent increase in enrolment has led to the shortage of classroom space. In contrast to this situation, some classroom slots were found to be vacant ranging from 8.00am to 3.30pm. The findings indicated that, on the average, 10.5% of the classroom allotted to each programme and 11.7% of big rooms space were not utilized. A further 26% of the former and 54% of the latter were not monopolized to their maximum capacity. It was found that the shortage of classrooms could be overcome by merging certain groups from the same programmes based on student numbers or combining the common courses being offered to different programmes.

INTRODUCTION

UiTM with campuses in every state of the country provides education and training through a spectrum of professional courses ranging from the science & technology to business studies for over 60,000 full-time and 5000 part-time students, and about 9,000 distance learning students. And UiTM Sarawak Branch, Samarahan Campus (UiTMSBSC) is a branch campus in East Malaysia attending to the socio-economic development of Bumiputra in Sarawak. With its humble beginnings in 1973 as a small campus in Batu Lintang, UiTMCS had shifted three times first to Semenggok, next Semariang and in 1977 to the present campus at Kota Samarahan. The regular shifting was necessitated by the yearly increase in its number of programmes and student enrolment.

The upgrading of the status of ITM to University Technology MARA (UiTM) lead to the introduction of higher level programmes, such as eMBA, BBA (Hons.) Marketing, BBA (Hons.) Finance and B. Accountancy. The expansion of academic programmes at UiTMSBCS and the subsequent increase in enrolment has lead to an acute shortage of classroom space (Table 1). As such, outside premises had to be sourced for the last two semesters to provide additional classroom space. This being the situation, surprisingly, some classroom slots were still found to be vacant in the Samarahan campus.

This situation prompted the management of UiTMSBSC to investigate the matter. As such a research group was formed to take up the project with the following objectives:

* to identify the problems and the reasons for lack of classroom space;
* to ascertain shortcomings related to the management of classrooms;
* to investigate the procedure in relation to the preparation of timetables and,
* to make recommendations for better management of classroom space.

Table 1: Enrolment at UiTM Sarawak Branch Samarahan Campus, 1997 – 2000

Faculty/Programme	1997		1998		1999		2000
	May	Dec.	May	Dec.	May	Dec.	May
Diploma In Public Administration (DPA)	432	362	362	364	366	381	404
Diploma In Accountancy (DIA)		458	556	509	454	426	428
Bachelor In Accountancy (BACC)	-	-	-	36	36	109	146
Diploma In Business Studies (DBS)	497	454	506	501	515	613	478
Bachelor In Marketing (BBA Marketing)	-	-	-	-	-	45	61
Diploma In Banking Studies (DIB)	457	428	474	436	378	348	325
Bachelor In Finance (BBA Finance)	-	-	-	-	-	33	64
Diploma in Civil Engineering (DCE)	85	112	155	202	225	231	225
Pre Science	111	133	113	111	134	122	138
Diploma In Plantation Industry Management (DPIM)	-	-	-	-	-	30	49
Pre Commerce	246	328	301	393	441	392	446
Certificate In Hotel & Travel Operation (HC03/HC05)	66	78	66	83	42	80	49
Diploma In Secretariat Science	231	233	222	240	204	193	102
Diploma In Technology Information & Office Management	-	-	-	-	-	-	34
Diploma In Computer Science	-	-	-	-	-	-	28
Total Enrolment	**2125**	**2586**	**2755**	**2875**	**2886**	**3003**	**2977**

Source: HEA, UiTMSBSC

An Overview of Programmes and Classrooms Available at UITMSBSC

Block B and Block C which have 57 classrooms (Table 2) are used for sixteen programmes whose duration ranges from 1 to 6 semesters. Some programmes such as Diploma in Computer Science and Diploma in Technology Information & Office Management started operating only this semester (June 2000).

Table 2: Classrooms Available at UiTMSBSC, 2000

	Quantity (Number)	Seating Capacity	Total Seating Capacity
Lecture Rooms in Block B	35	48 each	1680
Lecture Halls (Block C):			
1. DK1	1	320	320
2. DK2	1	80	80
Seminar Rooms (Block C):			
1 SR 1	1	60	60
2 SR 2	1	60	60
3 SR 3	1	60	60
4 SR 4	1	120	120
Multimedia Rooms (Block C):			
1 MM 1	1	80	80
2 MM 2	1	50	50
Science Labs	3	40 each	120
Engineering Labs	3	32 each	96
Engineering Drawing Studio	1	30	30
Language Labs	3	50 each	150
Audio Video Room (AV)	1	140	140
Teleconferencing room	1	50	50
Typing Labs	2	30 each	60
Total	**57**		**3156**

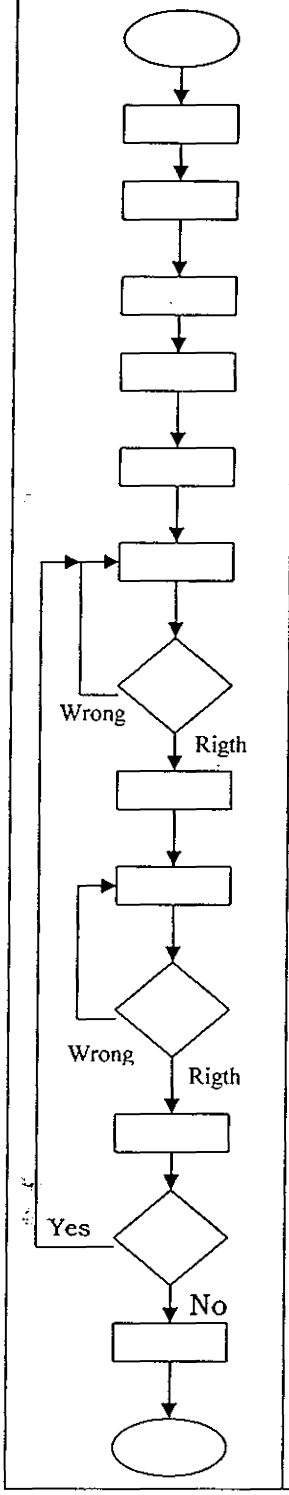
Source: HEA, UiTMSBSC

The current system of classroom distribution is that a specified number of classrooms are allotted to each Programme Coordinator (Table 3). The Coordinators then prepare their timetables taking into account the courses allotted to each lecturer and the total number of students registered for the courses. The present procedure of timetable preparation is illustrated in Flow Chart 1.

Table 3: Classrooms Allotted to Academic Programmes

Program	No of Semester	Classroom Allocated	Number of Classroom Allocated
DPA	6	B430, B432, B433, B449, B450	5
DIA BACC	6 4	B115, B125, B301, B417, B418, B419, B420, B431	8
DBS BBA (M)	6 4	B113, B116, B330, B331, B332, B333, B349, B350	8
DIB BBA (F)	6 4	B126, B127, B302, B317, B318, B319, B320	7
DCE	6	B401, B402, C210, C308A, C308B, C110, C111	7
PRE SC	2	B101, B114	2
DPIM	6	MM2	1
DSS(SS10) DSS(SS14)	4 6	B128, B144, B145	3
DCS	6	SR3	1
PRE COM	2	MPTAR	
HC03	1	MPTAR	
HC05	2	MPTAR	

Flow Chart 1: Present Procedure of Timetable Preparation



Start

[1]TP HEA to give instructions for the preparation of timetables

[2]KP to project the number of students for each class

KP to identify the lecturers teaching the particular courses/classes

Subject Coordinators to provide a list of lecturers teaching the courses

KP to appoint a Timetable Committee

Timetable Committee to prepare the required timetables for different groups, lecturers and rooms.

KP to check the draft timetables

KP to instruct the Timetable Committee to prepare the final time-tables

Timetable Committee to prepare the final timetables

KP to check the final timetables

[3]PTR HEA to distribute the final timetables

KP to receive feedback from lecturers and students and make necessary changes

TP HEA to file the timetables

End

The Data

Note: [1] TP: Deputy Provost (Academic); [2] KP: Head of Programme and [3] PTR: Administration Staff
Source: HEA, UiTMSBSC

A questionnaire was distributed to the Programme Coordinators to collect a wide range of basic information such as courses provided by each programme, number of students in each semester, number of semesters to complete the programme and classrooms alloted to each programme. In addition, timetables of all academic programmes and lecturers' ATS were also collected from the Programme Coordinators. However, a few Programme Coordinators were unable to supply the required information. As such, a separate questionnaire was distributed to all lecturers to obtain the necessary information. As regards timetables for all the classrooms and lecture halls, they were obtained from the office of HEA.

To provide further evidence on classroom utilisation at UiTMSBSC, observations of classroom utilisation were carried out at Block B for a period of two weeks in the month of September, 2000 to investigate whether the classrooms were being utilised according to the timetables given by Programme Coordinators.

The data and information were used to make a diagnostic analysis to check the following aspects:

i. to analyse whether the classrooms allotted to each Programme are fully utilised and to determine the extent of non-utilization;

ii. to identify the variables and constraints leading to improper utilisation of classroom spare;

iii. to verify the extent of utilisation of Big Rooms in relation to their capacities;

iv. to explore the possibility of combining the students of different groups of the same programme in order to fully utilise the seating capacities of classrooms (including Big Rooms);

v. to examine the present procedure of timetable preparation by Programme Coordinators, and suggest any improvement in the better management of classroom utilisation;

vi. to explore the possibility of avoiding reliance on outside premises through maximisation of utility of existing classroom space.

RESULTS

To give some ideas of the extent of the classroom utilisation in UiTM Sarawak branch, Table 4 presents information about the actual requirement and allocation of classroom space for various programmes in June-November 2000. Following Table 4, it shows that 13 programmes[4] with 84 groups required 1803 hourly slots in a week. However, since only 1470 slots were allocated (35 hourly slots * 42 classrooms), there was a significant shortage of 333 slots. Among the programmes which experienced difficulties as a result of this

[4]The study is confined to the parameters of the campus only. The Pre-Commerce (KP03/04) and Hotel/Travel (HC03/HC05) groups therefore, were not included in the analysis as the classes were held at the Tunku Abdul Rahman Teachers' Training College (MPTAR).

shortage, DPA felt the most pressure while Pre-Science the least. The problem was solved by using the Big Room in Block C and by arranging classes after 4.30pm in some cases.

Because of the system of classroom distribution, it was found that even though there was a shortage of classroom for many programmes, both DCE and DCS had an access of 44 and 10 slots respectively.

Table 4: Actual Requirement and Allocation of Classroom Space

Number	Programme	No. of Groups	Classroom Space		Excess/ Shortage	
			Required	Allocated		%
1.	DPA	12	260	175	-85	32.69
2.	DIA	13	291	280		
3.	BACC.	4	110		-121	30.17
4.	DBS	15	283	280		
5.	BBA (M)	2	84		-87	23.71
6.	DIB	13	225	245		
7.	BBA (F)	2	72		-52	17.51
8.	DCE	11	201	245	44	
9.	PRE SC.	3	74	70	-4	5.41
10.	DPIM	2	44	35	-9	20.45
11.	(DSS) SS10	4	87	105		
12.	(DSS) SS14	2	47		-29	21.64
13.	DCS	1	25	35	10	
14.	PRE COM. (KP03/04)		MPTAR			
15.	HC03		MPTAR			
16.	HC05		MPTAR			
	Total	**84**	**1803**	**1470**	**-333**	

Note: Each room generates 35 slots in a week (7 hrs per room X 5 days).

To examine the extent of shortages, we further analysed the data according to timetable of each programme. A detailed look at the classroom space utilisation showed that on the average, 10.5% of the facility allotted to the programmes were not utilised (Table 5). 8.00-10.00am slots accounted an overwhelming majority of this shortage (44%). A further 26.5% came from 10.00 – 12.00 noon slots and 1.30 – 3.30pm slots 29.5% (Table 6, 7 and 8). A reason for not utilising the 10.5% of classroom space was due to timetable clashes caused by repeating students. To accommodate these students, timetables were reframed leading to certain slots being left unutilised.

Table 5: Classroom Utilisation based on Timetables by Programmes, 8.00am – 3.30pm (percentage)

Rooms Allocated To	Not Utilised	Utilised
DPA	9.4	90.6
DIA	6.7	93.3
DBS	10.0	90.0
DIB	5.8	94.2
DCE	18.6	81.4
PRE SC.	3.4	96.6
DPIM	20.0	80.0
DSS	13.4	86.6
DCS	23.4	76.6
Total slots in a week	**132**	**1,125**
On average	**10.5**	**89.5**

Note: The percentage of each programme is calculated based on the total slots generated in a week.

Table 6: Classroom Utilisation by Programmes, 8.00am – 10.00am (percentage)

Rooms Allocated To	Not Utilised	Utilised
DPA	12.0 (6)	88.0 (44)
DIA	2.5 (2)	97.5 (78)
DBS	12.5 (10)	87.5 (70)
DIB	11.5 (8)	88.5 (62)
DCE	30.0 (18)	70.0 (52)
PRE SC.	10.0 (2)	90.0 (18)
DPIM	0.0 (0)	100.0 (10)
DSS	26.7 (8)	73.3 (22)
DCS	40.0 (4)	60.0 (6)
Total slots in a week	**58**	**362**
Average (%)	**13.8**	**86.2**

Note: Figures in parentheses show number of hourly slots.

Table 7: Classroom Utilisation by Programmes, 10.00am – 12.00 noon (percentage)

Rooms Allocated To	Not Utilised	Utilised
DPA	4.0 (2)	96.0 (48)
DIA	10.0 (8)	90.0 (72)
DBS	5.0 (4)	95.0 (76)
DIB	5.8 (4)	94.2 (66)
DCE	21.7 (13)	78.3 (57)
PRE SC	0.0 (0)	100.0 (20)
DPIM	20.0 (2)	80.0 (8)
DSS	6.7 (2)	93.3 (28)
DCS	0.0 (0)	100.0 (10)
Total slots in a week	**35**	**385**
Average (%)	**8.4**	**91.6**

Note: Figures in parentheses show number of hourly slots.

Table 8: Classroom Utilisation by Programmes, 1.30pm – 3.30 pm
(percentage)

Rooms Allocated To	Not Utilised	Utilised
DPA	12.0 (6)	88.0 (44)
DIA	7.5 (6)	92.5 (74)
DBS	12.5 (10)	87.5 (70)
DIB	0.0 (0)	100.0 (70)
DCE	13.4 (8)	86.6 (62)
PRE SC.	0.0 (0)	100.0 (20)
DPIM	40.0 (4)	60.0 (6)
DSS	6.7 (2)	93.3 (28)
DCS	30.0 (3)	70.0 (7)
Total slots in a week	**39**	**381**
Average (%)	**9.3**	**90.7**

Note: Figures in parentheses show number of hourly slots.

To further validate the analysis of classroom utilisation, we made an effort to carry out observation on classroom utilisation for two consecutive weeks in September 2000. It should be noted that the observation was only conducted at Block B due to lack of manpower. Ideally, the observation should include Block C in order to get a clearer picture of the actual extent of classroom utilisation.

Comparing the extent of classroom utilisation from both findings of classroom timetables and observation, the study found that classroom space utilisation through observation (Table 9) prevailed marginal higher (13.9%) of unutilised slots as compared with 10.5% of timetables'. This difference could be due to lecturers being on leave or the timetables were not updating.

Table 9: Comparison between Classroom Utilisation based on Timetables and Observation
(percentage)

Based on	Not Utilised	Utilised
Classroom Timetables	10.5	89.5
Observation	13.9	86.1
Differences	3.4	3.4

As regards the Big Rooms utilisation at Block C (Table 10), the study found that 11.7% of the classrooms was not utilized. Together with the 10.5% of unutilised slots in Block B, it was was the equivalent of 167 hourly slots. With a proper system, these vacant slots would definitely help to reduce the pressure of classroom shortage from as high as 333 hourly slots to 166. However, such a system does not exists at present.

Table 10: Big Rooms Utilisation in Block C based on Timetables, 8.00am – 3.30pm
(percentage)

Room	Not Utilised	Utilised
DK1	20 (6)	80 (24)
DK2	13.4 (4)	86.7 (26)
AV	13.4 (4)	86.7 (26)
MM1	0 (0)	100 (30)
SR1	13.4 (4)	86.7 (26)
SR2	13.4 (4)	86.7 (26)
SR4	33.4 (10)	66.7 (20)
MB1	10 (3)	90 (27)
MB2	0 (0)	100 (30)
MB3	0 (0)	100 (30)
Total slots in a week	**35**	**265**
Average	**11.7**	**88.3**

Note: Figures in parentheses show number of hourly slots

Another aspect of classroom shortage was a result of not fully exploiting the maximum seating capacities of classrooms that range from 48 (Block B) to 320 (lecture hall at Block C). Following Table 11, we can see that despite the fact that 89.5% of classrooms allotted to various programmes were utilsed, only 63.7% of them were fully utilised, leaving 25.8% underutilised[5]. The proportion of underutilised classrooms at Block C was even more alarming – 54% (Table 12). The problem was a consequence of dividing the students into a number of smaller groups. An effort therefore was made to study the improvement of classroom utilisation by merging different groups of common courses within the same programmes. Through this exercise, the overall shortages of classroom space decline substantially by 48.3% to 172 slots from 333 (Table 13). In other words, by merging the groups, 48.3% of the total classroom space (translated into 161 hourly) can be additionally created (Table 14).

Table 11: Classroom Utilisation between 8:00am - 3:30pm

Class Hours	8:00am - 10:00am	10:00am - 12:00noon	1:30pm - 3:30pm	Total Number	%
Hourly Slots Not Utilised	58	35	39	132	10.5
Hourly Slots Underutilised	95	114	116	325	25.8
Hourly Slots Fully Utilised	267	271	265	803	63.7
Total	**420**	**420**	**420**	**1260**	**100**

Table 12: Under-Utilisation of Big Rooms in Block C based on Timetables, 8.00am – 3.30pm
(percentage)

[5] If the number of students in a classroom is less than 30 in Block B.

Room	Not Utilised	Under-utilised	Fully Utilised
DK1	20 (6)	80 (24)	0 (0)
DK2	13.4 (4)	66.7 (20)	20 (6)
AV	13.4 (4)	86.7 (26)	0 (0)
MM1	0 (0)	80 (24)	20 (6)
SR1	13.4 (4)	53.4 (16)	33.4 (10)
SR2	13.4 (4)	60 (18)	26.7 (8)
SR4	33.4 (10)	53.4 (16)	13.4 (4)
MB1	10 (3)	13.4 (4)	76.7 (23)
MB2	0 (0)	33.4 (10)	66.7 (20)
MB3	0 (0)	13.4 (4)	86.7 (26)
Total slots in a week	**35**	**162**	**103**
Average	**11.7**	**54**	**34.3**

Note: Figures in parentheses show number of hourly slots

Table 13: Actual Classroom Space when Subjects for Certain Groups are Merged

Number	Programme	No. of Groups	Classroom Space		Excess/Shortage
			Required	Allocated	
1.	DPA	12	231	175	-56
2.	DIA	13	255	280	
3.	BACC.	4	100		-75
4.	DBS	15	269	280	
5.	BBA (M)	2	84		-73
6.	DIB	13	207	245	
7.	BBA (F)	2	72		-34
8.	DCE	11	147	245	98
9.	PRE SC.	3	74	70	-4
10.	DPIM	2	44	35	-9
11.	(DSS) SS10	4	87	105	
12.	(DSS) SS14	2	47		-29
13.	DCS	1	25	35	10
14.	PRE COM.(KP03/04)		MPTAR		
15.	HC03		MPTAR		
16.	HC05		MPTAR		
	Total	**84**	**1642**	**1470**	**-172**

Table 14: Creation of Additional Space

Description	Percentage	Hourly Slots
Not Utilised:		
Block B	10.5	132
Block C (Big Rooms)	11.7	35
Creation of Additional Space by Merging of Groups of Same Programmes	48.3	161
Total Slots made Available		**328**

It is also observed that many programmes include certain common courses like Languages, Mathematics, Islamic Studies, Economics, Enterpreneurs, etc. which have the same syllabi. If some of these common courses are combined to use the classroom capacity to its maximum, the requirement of the classroom space can be further reduced. Hence, additional space can be created for some of the proposed new programmes which are expected to start in the future. Through proper classroom management, this 'bonus' space can be beneficially utilised.

CONCLUSIONS

As a result of the expansion and diversification of academic programmes of the main campus, i.e. UiTM Shah Alam, many Diploma Programmes are likely to be shifted to the branch campuses. Hence, it is reasonable to expect that more and more students are likely to be admitted into Sarawak Branch of UiTM, requiring the management of UiTMSBSC to find more classroom space in the years to come. However, the number of programmes and the student intakes are varied. Therefore, any meaningful estimation of actual classroom requirement cannot be predicted in advance.

At present, timetables were prepared by Programme Coordinators with the given classrooms allotted to them. Based on timetables analyses, the study found that the classrooms allotted to different programmes were not sufficient to cater for the actual requirement. There was an overall shortage of 333 hourly slots. However, the classroom timetable analysis showed that 10.5% of classroom space was not utilised from 8.00am – 3.30pm. In addition, the extent of non-utilisation based on observation in Block B was marginally higher – 13.9%. A detailed look at the classrooms utilisation with respect to their capacities revealed that about 25.8% of the classroom space were under-utilised due to improper divisions of students into smaller groups. By merging some of the groups of the same programme, the overall shortage of 333 slots could be further reduced to 172 slots - a reduction of 161 slots contributing to approximately 50% of the reduction of shortage of slots.

RECOMMENDATIONS

The present arrangement of allotting the classrooms to each programme and the preparation of timetables by the Programme Coordinators can be continued. However there should be a Centralized Unit - Centralised Timetable Office (CTO) under the overall supervision of Deputy Provost of HEA to continuously monitor

and update the timetables periodically. To overcome the unutilized slots of other programmes, all the timetables should be computerised and the networking of such computerised timetables should be accessible to all Programme Coordinators so that they are free to plan and use the unutilised classroom slots of other programmes. However, the utilisation should be with the approval of the CTO and subject to updating of the timetables in the computer by the CTO. Furthermore, CTO should monitor on a continuous basis as regards the issues of dividing students into a number of groups when the intake is less than 48. To further reduce the classroom space requirement as programmes expand, the common courses like Languages, Mathematics, Islamic Studies, Economics, Enterpreneurs, etc., may be combined for different programmes and Big Rooms may be allotted for such common courses. The servicing departments concerned may be given the responsibility to fix the slots and groups of programmes to be combined.

To address the problem of repeating students and their clashes in the timetables, we recommend the following amendments to the academic regulations as :

a. When a student is absent in the Final Examination on medical grounds, the student is not required to repeat the course. Instead the student registers only for Final Examination in the next semester; and the previous carry over marks are considered for final grading.

b. When a student fails in any course with fairly good carry over marks, the student is permitted to register only for the Final Examination in the next semester. The student should be counselled by the Programme Coordinator for this purpose.

c. However, a student detained for shortage of attendance (less than 75% of attendance) is not permitted to take the benefits from (a) and (b) above. The student is required to repeat the course to fulfill the entire academic requirements.

Finally, whenever a new programme is being planned, additional classroom should be made available so that no further pressure is felt on the present classroom space situation.