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Implementation of Course Credit System in Undergraduate Programs of Public Universities in Bangladesh

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ABSTRACT

The main purpose of this research was to investigate the pattern of practice of course credit system in the higher education institutions (HEIs) of Bangladesh. The study employed both qualitative and quantitative methods of investigation. Data were collected from randomly selected public universities through web browsing, record analysis, online survey, FGD and key informant interview. Moreover, a premier university, BAU was taken as a case to determine the extent of class hour implementation in adopting course credit system. Minimum credit requirement for a four-year bachelor degree program is 120 in a 15-16 weeks semester and 60 minute class hour; requires adjustment when these duration varies. In Bangladesh, semester duration varies between 10 to 16 weeks, and class hour varies between 45 to 60 minutes. Several universities adjusted their credit requirements considering these variations, but not all. It ranges from 120 to 240. Credit adjustment for most engineering degree programs (155-160) follows global standard, while that of agricultural degrees are15-41% higher (180-240), and science, social science, humanities and other disciplines are lower than that of required standard. Although the adjustment of credit requirements for the above mentioned variations is possible for all disciplines, the loss of contact hours (≈30%), as evidenced from survey data is not arithmetically adjustable. This type of loss is common in almost all public universities of Bangladesh with a few exceptions. To overcome the weaknesses of course credit system in Bangladesh, introduction of good governance, monitoring and continuous professional development (CPD) are essential.

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Introduction

Higher education institutions (HEIs) of Bangladesh are going through a transformation process. The six older universities of the country like DU, RU, BAU, BUET, CU and JU started their academic programs before the independence of Bangladesh adopting annual

system and now many of their entities have adopted course credit system. Semester and course system was introduced by the Government Ordinance in the second generation universities. The SUST was the first university to incorporate semester system in Bangladesh through ordinance in 1986 but they implemented course credit system in 1996-97 (SUST, nd). This was followed by KU, where the semester and course were incorporated in their ordinance in July 1990, and implemented the credit system from 1996-97 session. The BUET also introduced the course credit system in 1990-91 academic session, and BAU introduced course credit system in 2002 (BAU, 2002). Meanwhile, the government approved Private University Act in 1992 and since then all private universities started their academic program adopting semester or trimester and course credit system. The largest and oldest university of Bangladesh, the DU introduced semester system in the Faculty of Commerce (now Business Studies) from 1977-78 session (DU, 2020), but they could not expand it for all entities. After a long gap, the DU recently has expanded the semester and credit system in several departments and institutes but still there are many to adopt it. The same is the case for many other older universities like RU, CU and JU. Thus, a mixed mode of both annual and semester system are in operation along with credit system. However, most of the new public universities which started their academic activities after 2001 have been following semester and course credit system from the beginning. The presence of mixed mode is mainly because of absence of any definite directive to these universities about introduction of semester, course and credit system from the UGC or the Ministry of Education.

Introduction of semester, course and credit system in Bangladesh is a positive step towards globalization of its tertiary education system. However, mixture of annual, semester and trimester system has made some complexities in the understanding of credit system in tertiary education sector. The length of semester in public universities of Bangladesh is not same and not guided by the government rule. And for that reason its duration varies from 10 to 16 weeks of instruction. Another variation exists in the duration of lecture hour; it varies from 45 to 60 minutes and for some program it is 70, 80 or 90 minutes. The most important element of the semester and course credit system is the allocated number of credit hour for a degree program. This credit hour varies from 120 to 240 for a four-year undergraduate program. There is a wrong perception that technical programs like agriculture and engineering degrees should have more credit than science, social science, arts and humanities. The situation does not become so complex when BUET and all four engineering universities offer their degree programs with similar number of credits. It becomes complex when it is seen that a general university is offering different degree programs with different number of credits although they are following a similar course calendar and program duration. Even, within a technical university like BAU, the number of credits varies from program to program. These complexities are not common only in older universities; the newer ones also have similar type of problems. For example, the Hajee Mohammad Danesh Science & Technology University (HSTU) offer degree programs on agriculture, engineering, science, social science and humanities. Different entities of these universities borrow their ideas from their origin, i.e. from where these programs evolved/introduced. These mixtures of heterogeneous origin make the academic milieu of a university very complex. One more problem in the system is the utilization of working days of a semester for

teaching-learning. The ranked universities of the west and Asia, and even the private universities of Bangladesh utilize 38-39 weeks for instruction and allocate 2-4 weeks for semester final examinations. However, public universities of Bangladesh have plan for 22 to 32 weeks of instruction and more than 10-12 weeks for preparation and implementation of semester final examinations. Another problem of public universities is the implementation of planned instruction time; some faculties say that they can hardly implement two-thirds of their scheduled semester hours for instruction. Public universities in general, cannot maintain academic calendar for their students. The final concern after all these limitations together is whether our program will get international accreditation, when there are so many limitations in curriculum.

Until recent time, majority of faculties were not clear about the modern concept of curriculum, curriculum structure and syllabus (Slattery and Carlson, 2005). Within this poor system of education delivery, the question arises whether major stakeholders of the system, the students, faculties and parents are aware of the standards of teaching-learning units, i.e. semester, credits, student hour, student learning time (SLT), notional hours and so on (MQA, 2019). The stakeholders expect very straight and clear cut information regarding these units. The concern in this regard is whether the degree earned by the students will be portable and acceptable in global job market or for higher studies abroad.

The recent massification of higher education in Bangladesh with the increased number of public and private universities and the growing number of students of all walks of life, made tertiary education to increase social and economic mobility. Longitudinal data bear out public perceptions that, "young people from low-income backgrounds who complete a bachelor degree have income and employment characteristics after graduation equivalent to their peers from more affluent backgrounds" (Choy, 2002). Modern education bringing the graduates of any country to work together that requires standardization of education system. So, the case for tertiary education system of Bangladesh; education system needs to adopt international standard. Thousands of Bangladeshi graduates are going abroad every year either for higher studies or for employment. They are very much exposed to global market and for that very reason their degrees and diplomas needed to be of global standard. If local educational institutions in Bangladesh follow global standard, then the young graduates coming out from these institutes will get the opportunity to be easily and directly absorbed in western and international workforce. In order to ensure global standards in education, the pros and cons of Bangladeshi institutions in respect of semester and course credit system needed to be investigated that help undertaking easier corrective measures.

Research on curriculum and course credit is rare in Bangladesh. The Quality Assurance Unit (QAU) of Higher Education Enhancement Project (HEQEP) provided financial support in 2016-18 to 69 universities of Bangladesh for preparing outcome based curriculum (Spady, 1994). But there was no clear direction about the content and format of it. Only recently, the UGC has taken decision to shift away from content based curriculum to outcome based curriculum and has prescribed a template for it (UGC, 2020). However, the manual UGC prepared for quality assurance of tertiary education sector does not contain any clear information about semester or course credit system (QAU, 2016). The very definition of semester and credit hour is still missing either in QA manual or in OBE based template of

UGC. Under the above circumstances, a ground level study on semester and credit system has become essential. The findings of this study will reveal the actual situation of semester and course credit system that prevails in the public universities of Bangladesh. In order to give a definite direction to this research, the following objectives were put forward to: a) define the concept of semester and investigate how it is being implemented; b) investigate the credit hours used by different undergraduate programs, compare its adequacy with global standard and find ways to standardize it; c) determine extent of implementation of planned contact hours in course credit system and find ways to overcome the limitations; and d) explore the ways to modernize academic calendar to systematize course credit system.

Methodology

The study was carried out at Graduate Training Institute (GTI) of Bangladesh Agricultural University (BAU) during September 2019 to March 2020. It was an exploratory research and inductive method was adopted to draw conclusion. Population for the study was dependent on different parameters. Firstly, content analysis (Holsti, 1969; White & Marsh, 2006) was adopted on web literature to determine the correct definition of semester and credit. For determining number of credit hour and related information, all public universities of Bangladesh were taken as population and sample was drawn based on availability of data in website. Other required data were collected adopting several methods namely, online survey, website visit, student attendance record analysis, focus group discussion (FGD) and key informant interview (KII) over telephone. Primary quantitative data in respect of credits hours in different degree programs, and number of classes actually held under different courses of BAU were collected from records of different faculties. The researchers collected records of 147 courses, 87 theoretical and 60 practical, over seven semesters (2016-19) of BAU undergraduate programs. These data were tabulated and categorized according to the objectives of the study.

Results & Discussion

This chapter begins with the (i) description of the concept of semester and its application in Bangladesh higher education sector. This follows by the (ii) variation in number of credit hour for an undergraduate program along with variation in semester and student/class hour duration. Attempt has been made to justify if all of programs follow global standard credit requirements. Thirdly, empirical evidence has been presented on (iii) how much of the contact hour requirement are actually materialized in BAU and in some other public universities of Bangladesh and find ways to overcome these limitations. The chapter closes with (iv) the modernization and utilization of academic calendar in order to materialize contact hour requirements of a program.

Concept and application of semester

The US universities break up the academic year into three different schedules; these are the semester, trimester and quarter system. A semester system divides the academic year into two units: fall and spring. Each unit is approximately 15-16 weeks (instruction) long with a winter break in between the fall and spring semester and a summer break after the spring semester. Typically, the fall semester starts in August and ends in December (e.g. 24 Aug to 12 Dec). Spring starts in second week of January and ends in early May (e.g. 11 Jan to 08 May). About 90% of programs in the US universities run on the semester system, making it the most common type of academic schedule (Burrows, 2016). The semester system also has a short summer (e.g. 17 May to 07 Aug) for students who plan to complete their degree earlier than four years. A trimester system divides the academic year into three terms: fall, winter, and spring. Each trimester is approximately 12-13 weeks (instruction) long. Many schools using the trimester system also offer a short summer term (usually 8 weeks). A quarter system divides the academic year into four terms: fall, winter, spring, and summer. Generally, the summer session is not required but can be used to complete courses that are not offered during the other terms or to complete the degree in short time. With a quarter system, each term lasts for 10 weeks as shown in Table 1.

Table 1 Break down of an academic year into quarter system: autumn, winter, spring and summer of 2019-20 at University of Washington

Quarter	Instruction Begins	Last Day of Instruction	Final Examination	Duration (week)
Autumn 2019	Sept. 25, 2019	Dec. 06, 2019	Dec. 07-13, 2019	10+01
Winter 2020	January 06, 2020	March 13, 2020	March 14-20, 2020	10+01
Spring 2020	March 30, 2020	June 5, 2020	June 06-12, 2020	10+01
Summer 2020	June 22, 2020	August 21, 2020	August 24-28, 2020	08+01

Universities in Bangladesh break up their four-year bachelor degree programs into four different academic calendar systems such as annual, semester, trimester and quarter based on duration of these units. Except annual system, the others are popularly known as semester. There is a recommendation from UGC Bangladesh that the length of semester would be 15-17 weeks of instruction for a bi-semester (UGC, 2017), but a 15 week semester (the minimum) has been set as standard by many universities. This is the minimum duration of a semester recognized globally and also in US universities. But, many universities in the US follow 16-week semester (Altbach, 2001) as per Carnegie definition of learning unit (Shedd, 2003; UNSEI, 2008).

Table 2 Semester duration and number of credit hours in some public universities of Bangladesh

University	Entity	Class-week	Credit
1. Bangladesh Agricultural University (BAU)	All	16	185
2. Bangabandhu Sheikh Mujibur Rahman Agril University (BSMRAU)	All	10	240
3. Bangladesh University of Engineering & Technology (BUET)	All	14	157
4. University of Dhaka (DU)	ACCE	14	163
5. Hajee Mohammad Danesh Science & Technology University (HSTU)	All	14	183
6. Jahangirnagar University (JU)	Env Sc	15	151
7. Jeshore University of Science & Technology (JUST)	All	13	160
8. Khulna University (KU)	Sc & Eng	13	160
9. Khulna University (KU)	Mgt & Bus	13	136
10. Patuakhali Science and Technology University (PSTU)	All	16	180
11. University of Rajshahi (RU)	Eng	≥11-13	160
12. University of Rajshahi (RU)	BBA	15	135
13. Rajshahi University of Engineering & Technology (RUET)	All	13	160
14. Sher-e-Bangla Agricultural University (SAU)	All	16	182
15. Shahjalal University of Science & Technology (SUST)	All	13	140

Public universities of Bangladesh follow semesters of different durations (Table 2). The BAU has adopted longest semester system with 16 week of instruction (BAU, 2002) which follows many of the US universities and Carnegie definition of semester. But, there are universities in Bangladesh where a semester follows 11, 13, 14 or 15 weeks of instruction. For example, RU engineering faculty follows ≥11 week (11×6=66 working days (RU, 2018); JUST, KU, KUET and RUET follow 13 week; BUET and HSTU follow 14 week; and many programs of DU, JU and RU follow 15 week instruction per semester (UGC, 2017; JU, 2018). Some HEIs along with BUET include a short semester after two full semesters. This short semester is like summer term of the USA, but they do not offer any new course rather it is only for make-up courses. The above mentioned findings regarding length of semester in public universities of Bangladesh reveal two facts: (i) only 22 to 32 weeks of the year are utilized for instruction, whereas the US universities and most private universities of Bangladesh utilize 38-40 weeks per year, and (ii) variations in duration of semester create confusion in determining exact credit or instruction hour for a program and making comparison with that of other universities or a standard program. Duration of semester is also very important for inter-university credit transfer which is a global practice (Hotta, 2019; ICEF, 2012).

Trimester system is mainly followed by private universities of Bangladesh where one academic year is divided into three equal blocks: “autumn-winter-spring” and in Bangladeshi

private universities it is "fall-spring-summer" (NSU, 2019). These three blocks here are also named as semester. Duration of each trimester is 14-15 weeks among which 12-13 weeks are utilized for instruction. Almost all private universities of Bangladesh follow trimester system except Ahsanullah University of Science & Technology (AUST, 2018) where semester with 13-15 week instruction is followed like public universities of the country. Some specific degree programs of private universities like BPharm also follow semester system (minimum 15 week instruction) as a requirement of professional society. The UGC of Bangladesh has requested all private universities to adopt semester system (Trines, 2019), but none has yet implemented it.

No public university in Bangladesh follows trimester system except the BSMRAU which follows the quarter system of the USA with a modification, i.e. in respect of duration of term (BSMRAU, 2015). The BSMRAU follows 10-week instruction for autumn, winter and summer, like quarter system. The US quarter system utilizes 38 full working weeks for instruction per year that none of the Bangladeshi annual or semester system of public universities can do. The BSMRAU utilizes only 30 weeks for instruction.

Credit matching with duration of semester and class

The number of credit for a degree program may vary as the length of a semester varies. As there is a standard duration for semester, there is also 'standard definition of credit' and a 'standard number' for that. The Carnegie definition of credit is based upon a minimum length of 16 weeks. In certain circumstances, it is possible to have more hours, but not less (LASC, nd). Thus, a 01 credit course requires 16 hours of lecture. The UGC Bangladesh recommended that a bi-semester should consist of no fewer than 15 and no more than 17 calendar weeks of instructional time. However, they also recommended 15 week as standard for engineering degree programs in Bangladesh. According to this definition, one semester credit hour will be awarded for a minimum of 15×01×60=900 minutes of formalized instruction (UGC, 2017). In this system, a student might earn 15 credit hours per semester enroute to a four-year bachelor degree requiring a total of 120 credits (Silva *et al*., 2015).

In Bangladesh, students require 120 to 240 credits to earn a four-year bachelor degree (Table 3). This variation is rooted in variation of semester duration and also in class-hour duration. The popular definition of credit in Bangladesh is itself a problem. *"One class hour in a week during a term shall be considered as one credit, and for laboratory classes, two class hours shall be considered as one credit"* (BSMRAU, 2015). This is a typical definition of credit in Bangladesh irrespective of duration of semester and class hour, but UGC doesn't support it (UGC, 2017). Credit hour data were from 60 different programs of 15 public universities and grouped them under five broad categories, such as Agriculture, Engineering, Humanities, Science and Social Science for comparison with global standard requirement (Table 3). Here, 15 week semester was considered as standard and compared these with existing credit requirements. Results presented in Table 3 imply that credit requirements of most engineering programs of 14 week semester are above 15 4which fulfill the global credit requirement, 16 week programs have higher credits and 13 week programs have lower credits. These findings imply that not all engineering programs have adjusted their credit

hours with the required standard, and this problem occurred mainly due to variation in semester and class hour duration.

Number of credit for a degree program may vary with the duration of semester in week or number of instruction hours in a semester, and also with the duration of each instruction hour. The UGC has suggested a conversion formula to calculate the required number of credits for each program (UGC, 2017) which is as follows:

$$\text{Expected credit} = \frac{120\times16\times60}{\text{Semester Week} \times \text{Class time (min)}}$$

(If 16 week is considered as standard semester duration),

or

$$\text{Expected credit} = \frac{120\times15\times60}{\text{Semester Week}\times \text{Class time (min)}}$$

(If 15 week is considered as standard semester duration)

After adopting similar formula, the University of Illinois has fixed 128 credits bachelor degree programs instead of 120 credit, because of 15 week semester; and BUET has fixed >154 credit degree programs for 14 week semester and 50 minute class duration. Information displayed in Table 3 show the required number of credit for any program considering the above mentioned equation.

Table 3 Required number of credit in any program as per global standard with variation in class-hour (minute) and semester duration (week)

Semester duration (week)	Required number of credit in programs of different semester and class-hour duration							
	Class-hour duration (in minute)				Class-hour duration (in minute)			
	60 min	55 min	50 min	45 min	60 min	55 min	50 min	45 min
	Required credit when 15 week is standard				Required credit when 16 week is standard			
10	180*	196	216	240	192	209	230	256
12	150	164	180	200	160	175	192	213
13	138	151	166	185	148	161	177	197
14	129	140	154	171	137	150	165	183
15	120	131	144	160	128	140	154	171
16	→				120	131	144	160

*In quarter system, University of Washington offers 180 credits for 4-year undergraduate program.

All agricultural programs in Bangladesh have too high credit than global standard (Table 3). Very specifically, credit data of all programs of BAU were collected and found that all of these have very high credit hours and the variation among degree programs of BAU is also very high (Table 4). There is no definite reason for this variation. Documents from the US universities were collected and found that credit requirements for degree programs of similar semester duration are the same (Illinois, 2018).

Table 4 Comparison between exiting credit hours under different broad subject area and required credit hours taking 15 week semester as standard

Broad Area of Subject	Semester duration (Week)	Class duration (Minute)	Credit hour range in practice		Requirement of credit considering 15 wk. as standard	Remark on existing credit hours
			Min	Max		
Agriculture	16	55	161	185	131	Higher
Agriculture	12	50	240	--	216	Higher
Engineering	13	50	160	165	166	Lower
Engineering	14	50	144	165	154	Lower-Higher
Engineering	16	50	155	165	135	Higher
Humanities	13	50	144	160	166	Lower
Humanities	15	50	120	--	144	Lower
Science	13	50	140	160	166	Lower
Science	15	50	128	160	144	Lower-Higher
Social Science	13	50	136	148	166	Lower
Social Science	14	50	150	--	154	Lower
Social Science	15	45	120	--	160	Lower
Social Science	15	50	135	160	144	Lower-Higher

If the US semester, credit system and credit hour duration are considered as standard then all agricultural programs of BAU will have to reduce their credit load at least by 14 to 41 percent (Table 5). The situation for other agriculture related programs in other universities are also same. The BSMRAU follows quarter system, and considering their quarter length (10 weeks instruction) and class hour duration (50 minutes), standard requirement of their program would be 216 credit but they offer 240 credits. This tendency of increasing credit in agricultural programs is mainly for interdisciplinary and inter-university competition for hunting job by graduates. All agriculture graduates compete for similar jobs and they feel that if someone has less credit, their graduates will face problem at entry point of job. Thus, every entity prefers to increase their credit disregarding the global standard and students' load. Every program management feels unsecured if they are asked to reduce their credit; but they must adjust their credit load as per global standard.

Existing credit hours for Humanities, Science and Social Science disciplines do not follow any definite pattern (Table 4). Most of these disciplines possess lower credits than global standard. One of the main reasons of these low-credit programs is that they have adopted only the standard number of credits disregarding their own semester duration and minute per instruction hour. When the duration of semester and duration of instruction hour is shorter, then the number of credit required should be higher (UGC, 2017). Credit requirement of all programs should be adjusted adopting the formula prescribed by UGC, otherwise the existing credit hour would not fulfill standard requirement of a degree program.

Table 5 Existing credit hour requirements of eight undergraduate programs of BAU and projected credit requirement

Name or Program	No. of Semester	Existing Credit Composition			Projected Credit requirement	Difference in %
		Theoretical	Practical	Total		
Doctor of Veterinary Medicine	08+2	134	65	199*	164	21
B.Sc.Ag. (Hons.)	08	107	78	185	131	41
B.Sc.A.H. (Hons.)	08+1	136	44	192**	147	31
B.Sc.Ag.Econ. (Hons.)	08	129	21	150	131	15
B.Sc.Agril. Engg.	08	108	47	155	131	18
B.Sc.FoodEngg.	08	111	44	155	131	18
B.Sc.Fisheries (Hons.)	08	148	43	191	131	46
B.Sc. Food Safety Management (Hons.)	08	96	53	149	131	14

* Including 12 credit for internship and 06 credit for dissertation. ** Including 12 credit for internship

After analyzing credit data of most of the public universities in Bangladesh, it is imperative to conclude that the program planners of many entities were not well conversant with the concept of semester and credit, particularly when duration of semester and class hour varies. They mainly adopted the number of credits of a standard program, but did not consider the required adjustment due to variation in duration of semester and class hour. In order to resolve this problem, awareness may be created among the stakeholders of program planning and implementation so that they consider the global standard while preparing their curriculum.

Implementation of contact hours

Nowadays, public universities in Bangladesh are moving from annual system to course credit system. This transition has not been smooth. In annual system, there was no strict regulation and monitoring about how many days or hours a faculty should spend in teaching. The faculties enjoyed unlimited freedom like the unlimited autonomy of universities. When they started adopting course credit system, the same mindset sustained. However, the course credit system should be regulated by strict principle of investing time by both faculties and students. The pioneers of the system, the US universities abide by those principles strictly, but public universities of Bangladesh have to go a long way to implement it properly. Credit hour is a quantitative standard, and according to BAU ordinance, 48 lecture hours (16×3) should be utilized for a 03 credit theoretical course. Similarly, 16 practical classes (16×2 hours) should be utilized during a semester for a 01 credit practical/lab course. That is the plan, target and an obligation as well. But, the ground reality is that it never happens. In order to determine the extent of actual number of classes that occur in the existing semester system, data for recent four years (2016-19) were collected on 87 theoretical and 60 practical courses of 26 selected departments of BAU. The findings reveal that, the range of lower limit of

theory class implementation was very low (25-48%) in different years and semesters, and thus, the average of total implementation became only 61 percent (Table 6). For practical sessions, it is little bit high (72%). There are teachers, who tried to achieve the most (94%), but still could not achieve 100 percent. Considering both theoretical and practical courses, it can be concluded that the gap between plan and practice was about one-third (39%) which cannot be acceptable by global standards.

Table 6 Extent of implementation of theoretical and practical classes in semester system at BAU during recent years

Semester	Academic Year	Percentage of Theory Class			Percentage of Practical Class		
		Min	Max	Mean	Min	Max	Mean
SEM-1	2016	44	82	59	60	88	73
	2017	48	94	67	61	100	72
	2018	45	78	62	57	88	71
	2019	25	78	61	50	100	75
	Mean			62			73
SEM-2	2016	35	82	58	56	81	68
	2017	35	91	63	38	91	71
	2018	34	91	60	50	81	66
	2019	..	..	..	75	100	80
	Mean			60			71
Overall				61			72

It was attempted to get similar data from universities across the country- both private and public through online survey, focus group discussion (FGD) and interviewing key informants (KII). Survey data were obtained from 35 universities and findings reveal that the gap between plan and practice in private universities was lower (0-10%) and the same for public universities was higher (0-20%). Some public universities implemented almost 100 percent like most private universities of Bangladesh and the US universities. After obtaining record-analysis findings from BAU, 13 key informants were interviewed from different public universities over telephone and found similar data like those of BAU. They disagreed with the online survey data and reported that at least 30-40% of planned class hours cannot be implemented in their universities due to various reasons. They provided these data from their long time experience, and assured that actual data will not vary to a great extent from this figure. To get the real data in this regard, it is essential to go through office records of student attendance from different universities.

The higher percentage of implementation of planned lecture hours in private universities are achieved mainly by appointing single class teacher for a course, adopting make-up class system and strong monitoring of class implementation by Academic Coordinators and Deans. On the other hand, the poor percentage of class implementation in public universities occurs at least for six reasons- (a) poor coordination among teachers when a single course is offered by more than one teacher, (b) students take auto-vacation, (c) teachers refrain from class due to research-workshops and meetings, (d) country-wide unscheduled political unrest and

strikes, (e) in campus unrest caused by students and staffs, and (f) unscheduled declaration of class suspension by government and university authority. In order to make up this gap between plan and practice related to class hour implementation, the public universities may adopt the good practices of private universities.

The vital problem identified in the credit system is the implementation of contact hour as per design. If the public universities and entities want to implement complete plan of scheduled class hours in order to maintain the global standard, then they have to adopt proper policy. In fact, compensation of class-hour by increasing number of credit (as BAU and other agric. universities do) is not a solution at this end. Formulating policy for implementing 100 percent class hours and strict monitoring thereafter is urgently required. Adoption of Learning Management System (LMS) is a good practice in this regard. Public universities should introduce make-up class system on a particular day of each week. Maintenance of lecture schedule should be given the topmost priority and sensitizing/motivating faculties, students, university management and the relevant stakeholders at this end may be a good strategy. To this end, we compiled stakeholders' opinion, and their suggestions in the following section.

According to global standard, a 03 credit course should utilize either 45 or 48 contact hours in a semester. But in reality, with a few exceptions, most programs fail to fulfill this requirement. There are universities, which can fulfill only 60% or even less than that. To overcome this problem, the UGC, universities and faculty management may take some corrective measures, such as, (i) standardization of number of credit in the degree program if that is too low or too high, (ii) preparation of good academic calendar and adherence to it, monitoring faculty presence in routine classes, introduction of make-up class-day in each week, (iii) changing assessment strategy from lower order to higher order, i.e. moving away from memorizing to analysis and problem solving, and (iv) introducing reward-recognition system for the best teachers. Moreover, (v) development of self-consciousness among faculties by continuous professional development (CPD) workshops and motivational campaign may be helpful to overcome this problem. There is no better solution than building self-consciousness of teachers, students, authorities and other stakeholders. Among, the aforesaid measures, the modernization of academic calendar is very much crucial in Bangladesh HEI context.

Modernization of academic calendar

Academic calendar and course credit system are tightly related to each other. Public universities of Bangladesh implement very flexible academic calendar. Number of weeks used for instruction in these universities ranges from11 to 16 per semester and thus, they utilize 22 to 32 weeks in a year. Distribution of these weeks are scattered over the year, and sometimes the teachers claim that they don't get any long holiday for recreation. In fact, they enjoy lots of scattered scheduled and unscheduled holidays within this period; and thus the other professionals of the country (GOs and NGOs) label educational establishments as "vacation institute". In previous section, it is observed that, on an average BAU teachers could utilize two-thirds of their scheduled time (Table 6) of 32 weeks (16×2) which is very

low in an annual calendar. On the contrary, most of the private universities in the country and the US universities utilize up to 39 weeks per year for instruction; in addition, they have optional summer term of 8 weeks. This has been possible by strict academic calendar and adherence to it. The University of Illinois of USA utilizes 72 instruction days in a 15-week semester (Figure 1) and they utilize 180 instruction days (72-72-36) in a year.

1. Fall Semester 2019

Monday	August 26	Instruction Begins
Monday	September 2 (no classes)	Labor Day
Saturday	November 23, 1 pm	Thanksgiving Vacation Begins
Monday	December 2, 7 am	Instruction Resumes
Wednesday	December 11	Instruction Ends
Thursday	December 12	Reading Day
Friday	December 13	Final Examinations Begin
Friday	December 20	Final Examinations End

ACADEMIC CALENDAR — Holiday | Break | Reading | Finals

FALL 2019

Week	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	Week #	Class Days	Whole?
-13	Aug 25	Aug 26	Aug 27	Aug 28	Aug 29	Aug 30	Aug 31	1	5	Whole
-12	Sep 01	Sep 02	Sep 03	Sep 04	Sep 05	Sep 06	Sep 07	2	4	
-11	Sep 08	Sep 09	Sep 10	Sep 11	Sep 12	Sep 13	Sep 14	3	5	Whole
-10	Sep 15	Sep 16	Sep 17	Sep 18	Sep 19	Sep 20	Sep 21	4	5	Whole
-9	Sep 22	Sep 23	Sep 24	Sep 25	Sep 26	Sep 27	Sep 28	5	5	Whole
-8	Sep 29	Sep 30	Oct 01	Oct 02	Oct 03	Oct 04	Oct 05	6	5	Whole
-7	Oct 06	Oct 07	Oct 08	Oct 09	Oct 10	Oct 11	Oct 12	7	5	Whole
-6	Oct 13	Oct 14	Oct 15	Oct 16	Oct 17	Oct 18	Oct 19	8	5	Whole
-5	Oct 20	Oct 21	Oct 22	Oct 23	Oct 24	Oct 25	Oct 26	9	5	Whole
-4	Oct 27	Oct 28	Oct 29	Oct 30	Oct 31	Nov 01	Nov 02	10	5	Whole
-3	Nov 03	Nov 04	Nov 05	Nov 06	Nov 07	Nov 08	Nov 09	11	5	Whole
-2	Nov 10	Nov 11	Nov 12	Nov 13	Nov 14	Nov 15	Nov 16	12	5	Whole
-1	Nov 17	Nov 18	Nov 19	Nov 20	Nov 21	Nov 22	Nov 23	13	5	Whole
0	Nov 24	Nov 25	Nov 26	Nov 27	Nov 28	Nov 29	Nov 30	14	0	
1	Dec 01	Dec 02	Dec 03	Dec 04	Dec 05	Dec 06	Dec 07	15	5	Whole
2	Dec 08	Dec 09	Dec 10	Dec 11	Dec 12	Dec 13	Dec 14	16	3	
3	Dec 15	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20	Dec 21			
		14	15	15	14	14			72	13

SEMESTER 1

	Mon, 5 Aug 2019 ~ Sat, 7 Dec 2019			**18 weeks**	**Public Holidays**
Orientation Week	*Mon, 5 Aug 2019*		*Sat, 10 Aug 2019 (a)*	*1 week*	The following will be observed as University holidays during the academic year:
Instructional Period					
Week 1	Mon, 12 Aug 2019	~	Fri, 16 Aug 2019 *(b)*		
Week 2	Mon, 19 Aug 2019	~	Fri, 23 Aug 2019		
Week 3	Mon, 26 Aug 2019	~	Fri, 30 Aug 2019	6 weeks	(a) National Day 9 Aug 2019 (Fri)
Week 4	Mon, 2 Sep 2019	~	Fri, 6 Sep 2019		
Week 5	Mon, 9 Sep 2019	~	Fri, 13 Sep 2019		(b) Hari Raya Haji 11 Aug 2019* (Sun)
Week 6	Mon, 16 Sep 2019	~	Fri, 20 Sep 2019		
Recess Week	*Sat, 21 Sep 2019*	~	*Sun, 29 Sep 2019*	*1 week*	
Week 7	Mon, 30 Sep 2019	~	Fri, 4 Oct 2019		(c) Deepavali 27 Oct 2019* (Sun)
Week 8	Mon, 7 Oct 2019	~	Fri, 11 Oct 2019		
Week 9	Mon, 14 Oct 2019	~	Fri, 18 Oct 2019		
Week 10	Mon, 21 Oct 2019	~	Fri, 25 Oct 2019	7 weeks	(d) Christmas Day 25 Dec 2019 (Wed)
Week 11	Mon, 28 Oct 2019	~	Fri, 1 Nov 2019 *(c)*		
Week 12	Mon, 4 Nov 2019	~	Fri, 8 Nov 2019		
Week 13	Mon, 11 Nov 2019	~	Fri, 15 Nov 2019		(e) New Year's Day 1 Jan 2020 (Wed)
Reading Week	*Sat, 16 Nov 2019*	~	*Fri, 22 Nov 2019*	*1 week*	
Examination	*Sat, 23 Nov 2019*	~	*Sat, 7 Dec 2019*	*2 weeks*	(f) Chinese New

Figure1 Academic calendar of University of Illinois and National University of Singapore

It is noticeable that, being a top ranking university, the academic calendar of Illinois does not have mid semester vacation, and they have only one day for reading before semester final examination. They complete the semester final exams only in six days. This calendar indicates that Illinois allocate high proportion of effort in continuous assessment and don't allow additional time to students for memorizing before final examination. The memorizing habit of students is an obstacle towards achieving 'higher order learning' that our QA standards require (QAU, 2016). The academic calendar of the National University of Singapore (NUS) is not so tight (Figure 1). The NUS divide their 18 week semester into: 13 week instruction, 01 week recess in the mid semester, and 01 week for reading before 2 week for final examination. They utilize 26 instruction weeks during two full semesters and an additional special term of 12 weeks which is optional. It is important to mention here that NUS, Illinois or any other university of the west utilize 100% of their academic calendar. If Bangladeshi universities want to enter into global higher education community and expect a good global rank, then it is necessary to modernize academic calendar, find ways to stick to the calendar and utilize instruction and examination time accordingly.

Conclusion

The premier public universities of Bangladesh are still practicing both annual and course credit system side by side, while the newer ones follow solely course credit system. The authorities could not change the total education system into single system in last three decades mainly because of unclear ideas of faculties about course credit system. Many senior teachers still see benefits in annual system. Amalgamation of systems creates confusion among the stakeholders and thus, length of semester varies too much, from 10 to 16 weeks of instruction.

Standard credit hour requirement for a four-year bachelor degree program is 120. However, credit hour in HEIs of Bangladesh varies from 120 to 240. Similarly, class hour length varies from 45 to 60 minutes. The number of credit of a program is adjustable considering the length of semester and duration of class hour. In this regard, the UGC has recommended a formula (UGC, 2017). By adopting the formula, it is observed that most of the engineering programs follow adequate number of credit, agriculture follow higher and most science, social science, arts and humanities programs follow lower than standard. This is mainly may be because of insufficient information available to the faculties regarding course credit system and absence of educational experts in their curriculum committee.

Semester system prescribes very rigid schedule of instruction which was not present in annual system. The public HEIs of Bangladesh still inherit the legacy of annual system and do not feel it obligatory to utilize the total time of semester. Record analysis and KII reveal that nearly one-third of semester duration remain unutilized due to excessive holidays and many other unwanted reasons. Proper planning, monitoring and evaluation using appropriate tools may be helpful to overcome this problem. The stakeholders' views regarding utilization of semester hours were: (i) standardization of number of credit, (ii) changing assessment strategy from low order to high order, (iii) introducing reward-recognition system for the best

teachers, (iv) development of self-consciousness among faculties by CPD workshops and motivational campaign, and (v) preparation of good academic calendar and practice on it.

The public universities of Bangladesh are very reluctant to maintain academic calendar. They enjoy lots of scheduled and unscheduled holidays during semester. Moreover, they spent long time for students' preparation for exam, implementation and evaluation of exam scripts. To get full benefit of semester, they need to follow academic calendar of ranked universities, and need stick to it.

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