

The Impact of Course Delivery Approach on Student's Academic Achievement at Haramaya University

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Abstract: The teaching approach plays a significant role in determining learners' academic achievements. Hence, the intention of this study was to examine the impact of the Course Delivery Approach (CDA) on students' academic achievement. To realize this purpose, combinations of both qualitative and quantitative approaches were used. Teachers and students were primary sources of data while senate approval sheets and students grade reports were considered as secondary sources. 51 students and 15 teachers were sampled by using purposive and available sampling techniques respectively. Interview, document analysis, and FGD were used to collect the data. The analysis of quantitative data was carried out by using mean and paired sample t-test while qualitative data was analyzed through the thematic description and word narration. The findings of the study indicated that students' academic achievement is relatively higher in the block course delivery approach (mean=3.2) than the parallel approach (mean=1.81). The p-value of paired sample t-test, $t(49)=32.6$, $P<0.05$ also indicated that the academic achievement of students on parallel and block course delivery approaches was statistically significant. Moreover, the mean score of students in quarter one courses (1.583) was greater than quarter two courses (1.576) with t-test value $t(49)=0.39$, $p>0.05$ indicating that the mean difference was not statistically significant.

Keywords: Academic achievement, Block, Delivery approach, Impact, Parallel

1. Introduction

The introduction of secular higher education in Ethiopia was initiated in the 1950s with the founding of the University College of Addis Ababa (Alemayehu & Solomon, 2017). According to Kate (2004), in 2003 the number of universities in Ethiopia became six and two additional universities were opened in 2004. After ten years, the number of government universities in Ethiopia had become 33. Currently, Ethiopia has 45 government universities. Regarding, Course Delivery Approaches (CDAs) being implemented in these universities, parallel mode of course delivery approach was solely used particularly in their undergraduate programs until the introduction of the modular curriculum in 2013 G.C.

With the rapid expansion of universities in the country, curriculum internationalization (modularization) was introduced at the national level in order to enhance students learning, inter-institutional transferability and standardization of educational programs across the country as well as international level (MoE, 2012). With this reform, a mixed modality of course delivery approach had been

launched instead of Parallel Course Delivery Approach (PCDA) which was used as the only option for the last decades in Ethiopian Universities.

Although the implementation of Course Delivery Approach (CDA) remains a controversial issue advocators like Ruth (2000); Slate and Jones (2000); Nesa, (n.d); Canady and Rettig (1995); Queen (2003); Winans (1996) argue that Block Course Delivery Approach (BCDA) can increase the academic engagement, grade point averages, and graduation rates as it helps students to settle into better time management and reduce absenteeism. Other scholars like Santos and Rettig (as cited in Ruth 2014); Calwetti (1994); Canady and Rettig (1995); Ruth (2000); and WCER (2004) suggested that BCDA provides longer class periods to cover a particular subject area & decreases a number of transitions between classes. Likewise, Karaksha et al., (2012) stated that block mode of teaching allows course materials to be delivered over a shorter period of time by means of compressed teaching formats. Furthermore, Canady and Rettig (1995); Dow and George (1998); Nichols (2005); Zepeda and Mayers (2006) confirmed that BCDA reduces the amount of money spent by districts and save time for teaching. Furthermore, Ruth (2014) citing Teger (1996) and Abdullah et al., (2012) affirmed that BCDA promote a high level of student satisfaction as it encourages the utilization of active learning. Moreover, Singh (2019) found out that lecturer's immediate feedback plays an integral part in enhancing students learning in higher education.

Moreover, Beniyam (2014) and Mellisa (2018) declared that BCDA makes learners to be engaged in a full workload in the form of self-directed study such as reading, researching, lab work, practicum, etc as well as interactive and collaborative study. Other proponents of block teaching like (Nesa, 2019 & Melissa, 2018) asserted that BCDA reduces fragmentation of instruction, help teachers to use varied instructional approaches to address the need of students with different learning styles, allow students to have more time to form groups, collaborate together & produce projects.

Scholars like Tatum (as cited in Piven, 2015); Davies (2014) also explained that PCDA has been challenged by the integration of the BCDA at various universities across the World due to the steadily increasing number of international students. In addition to this, they stated that the context of higher education is changing due to the global context of education, financial constraints faced by education providers, and students' interest to complete their studies as quickly as possible

Critics on the other hand indicated that, it may be difficult to justify the amount of time and effort required by both teachers and students to implement BCDA as it reduces instructional time over the school year, make content coverage curtailed and superficial. Additionally, Beneyam (2014) found out that students' interaction with their peers and teachers may be hampered due to full engagement in academic studies to complete the module within a short block schedule. Moreover, Melissa (2018) in his part affirmed that if a student misses a day under the modular schedule, that student will actually miss two, or sometimes even more days.

On the other hand, several researchers like Zelinna and Pablo (2005); Finger and Penney (2001) as cited in Devis (2014) indicated that there is no significant difference in the outcome of both block and parallel course delivery approaches.

The above discussions implied that both parallel and BCDAs have their own strengths and limitations. However, all Ethiopian universities are presently using mixed-mode of course delivery approach where some of the courses are given in parallel mode while some others are given in block mode. For instance, in the department of Adult Education and Community Development (AECD) where this study was conducted, students are required to take a total of 45 courses (117 Cr.hrs or 180 ECTS) to complete their three years undergraduate study. Among these, a total of 29 courses were delivered in block course delivery approach while the remaining 16 courses were given in a parallel delivery approach. From the total of 29 courses that were given in block modality, 14 of them were given in quarter one and the remaining 15 were given in quarter two (AECD, 2013). Table 1 below shows the summary of courses given in both block and parallel modalities.

Table 1. Summary of courses and their modality of instruction in the department of AECD

Semester	Year level and course delivery approach						Total
	First year		Second Year		Third Year		
	Block	Parallel	Block	Parallel	Block	Parallel	
Semester one	4	3	6	2	4	4	23
Semester two	5	3	4	3	6	1	22
Total number of courses	9	6	10	5	10	5	45

Hence, the purpose of this study was to investigate the impact of course delivery approach on the academic achievement of students in the department of AECD.

2. Statement of the Problem

Though all universities in all their faculties/schools/departments are currently implementing mixed modality of course delivery, students are facing several challenges. One of the major challenges as to the researcher’s experience and voice of students compliant is shortage of time particularly for block courses which were delivered in the second quarter. In relation to this, Wondifraw (2019) in his study entitled as the practice of modularized curriculum in higher education institutions discovered that shortage of time due to the nature of block teaching approach and large class size are found to be major challenges in making the instructional process more effective & in helping students to achieve the objectives stipulated in the curriculums of their study. In addition to this, instructors inability to start class on time, bulky course content that do not match with the allocated time for some courses, and lately starting university education in general are some of the major problems that affected the teaching learning process in Ethiopian universities.

Moreover, study conducted by Piven et. al (2015) in Otago poly-technique campus on students’ perception towards intensive learning in business courses indicated that the perception of international students on block learning was the same as the traditional semester based learning (parallel modality). In similar manner, Abdullah (2012) in Griffith University found out that there was no significant difference in overall student performance between students who enrolled in BCDA and PCDA even if students who were enrolled in BCDA had a lower mean GPA’s compared to their peers in the traditional or parallel course delivery. Therefore, this study was conducted for the following reasons: first, to come up with more conclusive finding in the context of Ethiopian Universities in which none of the above mentioned studies were unable to focus. Secondly, this study treated variables like quarter of course delivery approach which was not actually addressed in the previous studies. Hence, the present study was conducted to achieve the following general and specific objectives.

The general objective of this study was to investigate the impact of both block and parallel course delivery approaches on students’ academic achievement at Haramaya University. Specifically, the objectives were to:

1. Describe the attitude of students and teachers towards course delivery approaches (block and parallel)
2. Determine whether there is significant difference among students achievement in relation to course delivery approaches (block and parallel)
3. Find out the challenges related to utilization of both block and parallel course delivery approaches

3. Delimitation of the Study

Conceptually, this study was delimited to exploring the impact block and parallel course delivery approaches on students' academic achievement. Geographically, it is enclosed to the department of AECD students in CEBS, Haramaya University. Particularly, it was delimited to students of the 2016 entry who were graduates of the 2019. Even if the department has summer program students in its undergraduate level, the present study focused on regular program students of the department. In relation to the variables, the independent variables addressed in this study were course delivery approaches (both block and parallel approaches) while the dependent variable is students' academic achievement.

4. Operational Definition of Key Terms

Block course delivery approach: is an approach of course delivery where specific courses are delivered within six to seven consecutive weeks including its period of assessment

Mixed course delivery approach: is an approach in which some courses are given in block while some others are given in parallel (semester-wise) format.

Parallel course delivery approach: is an approach of course delivery where the delivery of the courses stays for the whole semester including its period of assessment (semester based).

Quarter: is half of a semester in which block courses are delivered.

5. Research Methodology

5.1. Research Design

This study was guided by pragmatist paradigm with the assumption that collecting diverse type of data (both qualitative and quantitative) best provides the understanding of a research problem (Creswell, 2007). With regard to research approach, the combinations of both qualitative and quantitative approaches were used to avoid the limitation of using one of the approaches (Creswell, 2007). A qualitative approach with phenomenological strategy was considered appropriate as it contributes for greater understanding of how students and teachers perceive the practices of course delivery approach as it offer insight and possible answers to questions such as What? Where? When? and Why? (Wellington, 2000; in Feyera, 2019), of which some of them were used in this study. Moreover, quantitative approach with longitudinal survey research strategy particularly panel study design that focuses on studying the same people, group or organizations across multiple time period was considered to collect quantitative data regarding the academic achievement of students. Moreover, Marczyk, DeMatteo and Festinger (2005) stated that qualitative approach is used to explore participants experience while quantitative approach is appropriate for testing hypothesis. In this study, qualitative approach is used to explore the perception of students towards course delivery approach while quantitative is used to test hypothesis.

5.2. Source of Data

To collect the required data for this study, both primary and secondary sources were consulted. The primary sources of data were teachers, students' department heads, and program coordinators. As secondary sources various documents like senate approval sheet, registration slip, weekly schedule (time-table) of the department, and grade report were considered.

5.3. Population, Sample Size and Sampling Techniques

The total population of this study was 66 of which 51 were students and the remaining 15 were teachers. Hence, purposive and available sampling techniques were used to include existing students and teachers respectively.

5.4. Instruments of Data Collection

Interview, focus group discussion and document analysis were used.

5.4.1. Interview form:

Semi structured interview was conducted with instructors working in the department of AECD to gather data regarding students' and teachers' perceptions towards the modality of course delivery approaches. Additionally, data regarding the major challenges on the implementation of BCMA was collected by using interview. In doing this, tape recorder was used to capture the data and an average of 10 to 15 minute was spent with each interviewee. The interview was conducted in English as English is the medium of instruction in higher learning institutions of Ethiopia and all the sampled teachers were capable enough to express their ideas in English.

5.4.2. Focus Group Discussion (FGD)

FGD was conducted with students to gather data regarding their perception towards the modality of course delivery approaches. Hence, 3 set of FGD having 8-13 members were conducted.

5.4.3. Document analysis form:

Documents like students grade reports, registration slip, senate approval sheet, and weekly schedule were used to collect data. Students' registration slip of six semesters and all the schedules of the department were taken from the department of AECD to check whether students were registered to take courses in the appropriate course delivery approach as indicated in the main curriculum of the department. Students grade report and senate approval sheet were consulted to collect data regarding the achievement of students in each course.

5.5. Methods of Data Analysis

Paired sample t-test was used to compare the mean score of students in parallel and block course delivery approaches. Again, paired sample t-test was used to check on which block (B1 and B2) courses did students score better. Moreover, qualitative data that was collected by using interview was analyzed thematically through narration.

6. Data Presentation, Analysis and Discussions

Background Information of the Respondents

Table 2. background information of the respondents

No	Respondent	Sex			Total
		M	F	T	
1	Students	49	2	51	51
2	Teachers				
	Lecturer	9	1	10	15
	Assistant professor	3	1	4	
	Associate professor	1	0	1	
	Total	62	4	66	66

As indicated in table 2 above, there were 51 (77.3%) students and 15 (22.7%) teachers in the department of AECD. Among this, 62 (93.9%) of the respondents were males while the remaining 4 (6.1%) were females. In terms of academic rank, the majority of the teacher respondents 10 (66.7%) were lecturers, 4 (26.7%) assistant professors and the remaining 1 (6.7%) were associate professor. This indicates that the respondents were mature enough to provide the required data for the research.

Section one: Findings regarding perception of respondents towards CDA

This section treated the presentation of major findings from the data collected through interview, FGD, and document analysis as per the basic research questions which were framed to guide the present study. The first research question was “How do teachers and students perceive CDAs in higher learning institutions?”

Major findings from the interview

Three major themes and 7 sub themes were found as indicated in table 3 below

Table 3. Major themes and sub themes obtained through interview

No	Question	Major theme	Subtheme
1	Which course delivery approach do you prefer to teach/learn courses?	Mixed feeling about CDA	1.I prefer block modality 2.I favor parallel CDA 3.I have the same feeling for both approaches
2	Which approach enhances students academic achievement	Two opposite responses	1.Parallel approach 2. Block modality
3	What are the major challenges in relation to CDA?	Challenges about CDA	1.Shortage of time 2. Curriculum organization

Theme 1: Mixed feeling about Course Delivery Approaches (CDA)

Participants generously exposed their feeling about CDA. They expressed that both approaches were appropriate, applicable and crucial in providing courses at higher education institutions. Their perceptions are categorized in to three mixed feelings as summarized in table 3 above and presented in details here below.

Favor Block Course Delivery Approach (BCDA)

Generally, block scheduling can be introduced at any level including primary, secondary and tertiary school levels. It organizes the day into fewer classes, but longer class periods to allow accelerated, time shortened, and intensive course delivery. In this approach, courses are arranged in a short and fat (compressed) manner. One of the interviewees supporting this approach clued-up as follows:

Block course delivery system encourages students to be focused on particular course rather than reading several course materials at a time as the system by itself restricts students and teachers to be confined within a particular period of time probably 7 weeks or a maximum of 8 weeks. You know, in BCDA all the assignments, class sessions, and lab sessions including the assessments are required to be completed within this limited period of time which in turn necessitate students to be focused and hard-working [instructor 2, August 2020].

In support of the above finding, another instructor said “block courses have relatively longer time per session than PCDA. Hence, it gives more opportunities for both the teachers and students to interact with one another in the classroom”. Moreover, two other interviewed instructors repeated:

For me, block course delivery approach is preferable as it cheers up student-teacher interaction in the classroom and promotes teachers to use various active learning approaches. The reason is that teachers stay relatively long time in class when compared with the parallel delivery approach. As a result, teachers might be challenged in relation to holding the attention span of students [instructor 7, August 2020].

As a curriculum expert, I personally choose block-based delivery in which one module is given at a time and it is only when this module is completed that the students proceed to the next module. If you take a parallel or semester-based approach, two or three modules can be delivered side by side. So, the block course delivery approach encourage the principle of vertical relationship of courses that reduce information overload and help students to easily understand the relationship among modules over time [instructor 1, August 2020].

Favor Parallel Course Delivery Approach (PCDA)

In PCDA, modules can be designed in a long and thin (semester-length) format that offers students much time to settle down during their course period. In support of this, one of the participants, instructor 6, reported:

Most teachers might prefer BCDA to dump the course material and to easily cover their course. To be frank, it is difficult to cover some courses using BCDA due to the shortage of time. From our tangible experience, a minimum of two weeks from the total of 7 weeks allowed to cover block courses would not be used for classes. Look, the first week will be missed due to registration, receiving dormitory and other related purposes. Likely, the last one or even two weeks will be the period of the final exam. So, only five or even four weeks are going to be used for covering block courses.

With regard to the above idea, instructor 1 also reported “students that require a long time to rehearse their learned material through repeated reading can be disadvantaged on BCDA”. With reference to this idea, the other instructors who participated in the interview said “lower achievers prefer parallel course delivery approach as block course delivery approach creates a hectic and the hostile environment that requires more time for reading and covering the course content”.

The other respondent supporting PCDA claimed:

The block course delivery approach encourages rote memorization of students as they face a shortage of time to rehearse and achieve higher levels of the cognitive domain. In such situations, students cannot achieve the higher-order domains like synthesis, analysis and evaluation as the system itself limits them to focus on lower level of blooms taxonomy like knowledge and comprehension which is considered to be rote memorization

Moreover, the head department supporting parallel course delivery approach indicated:

I would say BCDA adds burden upon management as a routine activity like timetable preparation, exam schedule preparation, and other related changes occur quarterly which disturbs my regular task. But, in PCDA you are required to do all these activities once a semester.

Having the same feeling for both Approaches

The majority of the respondents involved in this study favored either BCDA or PCDA as discussed above. However, a small number of respondents at the time of data collection uttered that they did not have preferences towards any of the course delivery approaches. This implies that they have the same feeling for both parallel and block course delivery approaches. Here is the direct voice of the respondents:

Many students might prefer PCDA as it gives them more time for reading and help them to not to be busy while taking the course. However, I do not bother about the type of course delivery. What matters is effectively using the time granted in both approaches [Student 2, August, 2020].

The other student also repeated, “to be effective in any course, it is not the approach that matters but the attention of the students towards the given course and the commitment of the course instructors”. In support of the above findings, the other interviewed student claimed that the situation in and out of the campus plays a decisive role on the effectiveness of students. Here is the excerpt

For me, the approach of course delivery has little effect on the academic achievement of learners. Two things matter most: the first one is students’ readiness and plan to attend and daily cover every activity given by course instructors. The second and the most significant determinant one is the situation in the campus including peace around classrooms, dormitory, cafeteria, and even outside the campus in the community.

Section Two: Findings regarding course delivery approach and students academic achievement

Paired sample t-test was conducted to test whether students achieve better in block or parallel course delivery approaches. Table 4 below shows the summary of paired sample t-test.

Table 4. Course delivery approach Vs academic achievement

Paired Samples Statistics					
	CDA**	Mean	N	Std. Deviation	Std. Error Mean
Pair	Parallel	1.8230E2	50	19.73900	2.79152
	Block	3.1594E2	50	42.83084	6.05720

CDA**-is Course Delivery Approach

As indicated in the table 4 above, the mean score of 50 students in all 16 courses that were taken through parallel approach is 1.82 while the mean score of these students in the block course delivery approach is 3.2. This indicated that, students’ academic achievement is relatively higher in block course delivery approach than parallel course delivery approach. To check whether there is a significant mean

difference among students academic achievement in both parallel and block course delivery approaches, paired sampled t-test was conducted and the resulted is displayed in table 5 below.

Table 5. Paired sampled t-test result

		Paired Samples Test					t	Df	Sig. (2-tailed)
		Paired Differences			95% Confidence Interval				
Mean	Std. Deviation	Std. Error Mean	Lower	Upper					
Pair	Parallel – Block	-1.33635E2	28.97471	4.098	-141.9	-125.4	-32.6	49	.000

As depicted in table 5 above, the p value of paired sample t-test is $t(49)=32.6$, $P<0.05$. This indicates that, there is significant statistical mean difference in the academic achievement of students on courses delivered through parallel and block delivery approaches. Therefore, the null hypothesis that states there is no significant mean difference in the academic achievement of students was rejected, and the alternative hypothesis was accepted. Nevertheless, the researcher at the initial stage of the research assumed that students achieve better in parallel course delivery approach than block course delivery approach as they will have more time to read and cover the content they learned. Astonishingly, the finding of this research indicated the reverse. Meaning, the achievement of students in block course delivery approach (mean=3.2) is higher than parallel course delivery approach (mean=1.82) as indicated in table 4 above. In opposite to this, Yancy (2015) found out that writing scores of students at school was significantly different, indicating that the change from block to a traditional parallel schedule or course delivery was a positive move. Additionally, course examinations in Biology at school were significantly different, indicating the change from block to a traditional schedule was a positive move. He further concluded that the overall mean test score slightly increased in all twelve courses (areas), indicating that the move from block scheduling to a more traditional scheduling model is positive.

In which quarter do students achieve better (quarter 1 or quarter 2)

As indicated in table 6 below, the mean score of 50 students in quarter 1 (1.58) is greater than the mean score of quarter 2 (1.57). This indicates that students’ academic achievement is higher in courses that were delivered in quarter 1 than quarter 2.

Table 6. Paired sampled t-test result

		Paired Samples Statistics			
CDQ**	Mean	N	Std. Deviation	Std. Error Mean	
Pair	Quarter 1	1.5832E2	50	24.27017	3.43232
	Quarter 2	1.5762E2	50	20.24759	2.86344

**CDQ-is Course Delivery Quarter

To check whether the mean difference on the achievement of student is significant or not, paired sample t-test was conducted and its output is presented in table 7 below. The table shows that, the p value $t(49)=0.39$, $p>0.05$. This indicates that there is no significant difference on the achievement of students in courses delivered in both quarter 1 and quarter 2. Therefore, the alternative hypothesis that states there is significant mean difference on the achievement of students in quarter 1 and 2 courses was rejected and the null hypothesis was accepted.

Table 7. Paired sampled t-test result

Pair		Paired Samples Test					t	df	Sig. (2-tailed)
		Paired Differences							
		Mean	Std. Dev	Std. Error Mean	95% Confidence Interval of the Difference				
			Lower	Upper					
Pair	Quarter 1 – Quarter 2	.70000	12.788	1.809	-2.94	4.34	.387	49	.700

Section Three: Discussion

This section deals with the discussion of the major findings presented in the previous sections. The first objective of this study was to investigate the perception of both teachers and students towards the course delivery approaches. Hence, the thematic analysis has emerged with three thematic and seven sub thematic findings. These are: Mixed feeling about CDA, two opposite ideas about the effect of CDA on students' academic achievement and challenges in relation to CDA which are discussed in detail here under.

Mixed feeling about Course Delivery Approaches (CDA)

As it can be seen from the presentation of the findings in section one of this chapter, respondents have mixed feeling on the topic of CDA. The first category of respondents' preference was BCDA as they believed this approach encourage students to be focused on a particular course, it enhances teacher - student interaction, and it reduces information overload by helping learners to understand the relationship of courses over time. This finding agrees with Kaya and Aksu (2016); Abdullahi et al. (2012); Calvery, Sheets, and Bell (1998); McCoy (1998); Stader and DeSpain (1999); and Brown University (1998). These studies claim that respondents prefer BCDA over the PCDA because of various reasons indicated hereunder. For instance, Kaya and Aksu (2016) citing Cheryl and O'Connell (1997) indicated that, students chosen block scheduling as it influenced them to attend school because of the increased amount of material to be covered each day and the chaotic environment created in traditionally (parallel) scheduling. Likely, Abdullahi et al. (2012) confirmed that, the majority of students showed positive responses towards block teaching approach (mean 4.63) when compared with traditional course delivery approach (mean=4.33) on a 5 point likert scale.

Moreover, Calvery, Sheets, and Bell (1998) studied in public high school having 200 students & found out that, the perception of all the students switched from a traditional 7-period format to a block schedule even if it was not significant as cited in (Kaya & Aksu, 2016). Similarly, Todd (2007) regarding the perception of middle and high school teachers towards teaching format concluded that respondents have favored block schedule over the traditional schedule.

Furthermore, Kaya and Aksu (2016) citing McCoy (1998) in their study conducted to examine the effects of block scheduling in one rural public secondary school found out that, block scheduling basically benefited all students equally, regardless of ability level, attitude toward school, and degree of school success. Besides, Corley (2003) in his/her study done to explore students attitude about block scheduling exposed that students have benefited more on this approach by offering more total learning time, more opportunities to work with other students, more individual help from teachers, the ability to finish homework in class more often, better grades, more time to prepare for tests, and liking for the schedule.

Stader and DeSpain (1999) as cited in Kaya and Aksu (2016) also found out that respondents perceived BCDA brought an improvement in the quality of student work, depth of subject-matter covered, student retention of material, and an increase in enrollment in advanced courses. Overall, it was found that block scheduling improved the teacher-student relationship, stimulated changes in teacher methodology, and improved the school climate.

Melisa (2019) also found out that students favored BCDA due to the increased span of teaching time, & longer cooperative learning activities can be completed in one class periods. Also, there is more time for labs in science classes. He/she further stated that, the teachers are able to provide more varied instruction during class and hence easier to deal with students with disabilities and differing learning styles.

Brown University (1998) indicated that the reward of block scheduling is heightened student and teacher morale, encouragement for the use of innovative teaching methods that address multiple learning styles, and an improved atmosphere on campus. Moreover, it included that BCDA help students to concentrate on few courses per semester, Students and teachers prepare for fewer courses each semester, Students receive increased instructional time, Students have fewer classes, quizzes, and homework assignments each day, students are enrolled in fewer classes.

The second category of the present finding was favoring PCDA as respondents believed this approach is better than BCDA in providing more time to cover courses, help them to relax while attending courses and encourage them to achieve higher order objectives. In support of this, Cheryl and O'Connell (1997) on their study conducted to examine the perceptions of rural high school students' on block scheduling revealed that, the longer classes with no breaks during BCDA were boring and students felt more stress in school after implementation of block scheduling cited in (Kaya & Aksu, 2016).

Supporting PCDA, a study conducted on the perceptions of teachers and students towards block scheduling in Turkish high school revealed that their attitude was generally negative due to very short break in between classes (Yalar & Yelken, 2009; as cited in Kay & Aksu, 2016). Regarding, attendance rate and disciplinary referrals, Williams (2011) as cited in Kaya and Aksu, (2016) found out that the attendance rates of students have shown growth in traditional scheduling while their discipline referrals have decreased. Moreover, Hussen (2018b) found out that lack of time due to the implementation of BCDA was becoming one of the major factors in affecting the removal of FX grades. In addition, Hussen (2018a) indicated that shortage of time due to block course delivery approach is one of the causes for scoring FX or low grades in their result.

The third category of the present finding was having the same feeling for BCDA and PCDA as they think it is not the course delivery approach that matters but the students' attention, readiness & plan, course instructors' commitment, effectively using the granted time and peace inside the campus & the community in general. Literatures like Piven et. al (2015); Kaya and Aksu (2016) also showed the same. For instance, Piven et. al (2015) in Otago poly-technique campus on perception of students towards intensive learning in business course indicated that, the perception of international students on intensive learning was the same as the traditional semester based learning. Similarly, study of Kaya and Aksu (2016) revealed that the block-scheduling had many advantages in terms of improvements in student-teacher relationship and teacher methodology, but some disadvantages in terms of attention span, concentration difficulty and basic needs.

Study conducted by Kaya & Aksu (2016) in Turkey found out that the perceptions of both 5th grade students and 8th grade students were similar regarding the advantages and disadvantages of the block scheduling.

CDA and Students Achievement

Regarding students achievement on block and parallel course delivery approaches, the present study indicated that there was significant statistical mean difference on the academic achievement of students in courses delivered through parallel and block delivery approaches with paired sample t-test $t(49)=32.6$, $P<0.05$. Similarly, Stader and DeSpain (1999) in Kaya 2016 compared the achievement of students in both block and traditional scheduling in small high schools (schools with fewer than 500 students in grades 9 to 12). The results indicated that teachers and administrators generally believe block scheduling has improved student achievement. In addition to this, they perceived BCDA brought an improvement in the quality of student work, depth of subject matter covered, student retention of material, and an increase in enrollment in advanced courses. However, when teachers were divided by subject area, math/science teachers did not

necessarily agree with this general assessment. Overall, it was found that block scheduling improved the teacher-student relationship, stimulated changes in teacher methodology, and improved the school climate.

Moreover, Peterson, Schmidt, Flottmeyer and Weincke (2000) in Kaya 2016 analyzed the implementation of block scheduling in a suburban middle school in Minnesota, and concluded that BCDA promoted academic achievement, increases creative approaches to instruction, and improved school climate. Again, a longitudinal study conducted to examine a controversial block-scheduling program in a small, mid-western city indicated that grade point average of block-scheduling program was better over the traditional delivery (Trenta and Newman (2002) in Kaya 2016.

In another study, Corley (2003) explored and found out that block scheduling offer the following benefits: more time to learn concepts better, more opportunities to work with other students, more individual help from teachers, the ability to finish homework in class more often, opportunities to score better grades, more time to prepare tests, and liking for the schedule.

Furthermore, Williams (2011) in Kaya 2016 aimed to determine the impact of block scheduling on student academic achievement, discipline, and attendance, found out that students experienced higher reading scores on block schedule than the traditional schedule;

In opposite to the above findings, Abdellahi et al. (2012) found out that, students who enrolled in the intensive mode had a significantly lower mean GPA when compared to their peers from the traditional CDA for all three study years. In addition to this, Williams (2011) in Kaya 2016 indicated that students experienced higher math scores under the traditional schedule than the block schedule

Furthermore, Stader and DeSpain (1999) in Kaya 2016 compared the achievement of students in both block and traditional scheduling in small high schools (schools with fewer than 500 students in grades 9 to 12). The results indicated that teachers and administrators generally believed block scheduling has improved student achievement except for mathematics and science subjects.

In support of the above findings, Brown University (1998) indicated that the expressed goal of block scheduling has improved student academic performance.

7. Conclusions and Implication

The finding of the study regarding the perception of students and teachers towards block and parallel course delivery approaches in university education indicated that both teachers and students have mixed preferences towards these approaches due to their own advantages and limitations. Therefore, the researcher suggested that universities need to utilize both course delivery approaches side by side and teachers need to work in collaboration as suggested by (Adewale & Ago, 2020) in order to enhance students' achievement and satisfaction. Nonetheless, it would have been good if mutual approach of curriculum implementation that aims on addressing individual student interest through discussion between the students and the teacher rather than implementing fidelity approach that aims on implementing the planned curriculum without modification as per the interest of individual learner.

The mean score of students in courses that were taken through parallel and block course delivery approach was 1.82 and 3.2 respectively. This indicates that, students' academic achievement is relatively higher in block course delivery approach than parallel course delivery approach. In addition to this, the p value of paired sample t-test is $t(49)=32.6$, $P<0.05$ which indicates that the academic achievement of students on courses delivered through parallel and block delivery approaches was statistically significant. Therefore, the researcher suggested that, course delivery approach should not be fixed at national level and students themselves need to determine the delivery approach at the initial stage of each course delivery.

Moreover, the finding of the study indicated that the mean score of participants in courses that were taken in quarter 1 (mean=24.3) is greater than the mean score of courses in quarter 2 (mean=20.2). This indicates that students' academic achievement is relatively higher in courses delivered in quarter 1. However, the difference was not statistically significant, $t(49)=0.39$, $p>0.05$. The reason for this difference as obtained from the participants at the time of data collection was shortage of time particularly on block 2 courses because of the following reasons. The first reason was that, some teachers did not complete block 1 courses on time and as a result they take extra time from block 2. The second reason is that, some teachers

do not start block 2 courses on time. Therefore, the researcher suggested that the implementation of DOCO (Day One Class One) should be strictly practiced from the beginning to the completion of all the courses and extra time should not be consumed from block 2 courses.

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