

MINI-SESSION COMPARED TO NORMAL-LENGTH COURSES IN THE CONSTRUCTION MANAGEMENT PROGRAM AT SAM HOUSTON STATE UNIVERSITY

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Abstract:

Several drafting and design courses are being offered in the Construction Management Program at Sam Houston State University using an intense two week format. The classes meet every day for four hours on each day for fifteen days in the period between the spring and summer terms. An investigation was conducted to compare this type of course delivery to the normal fall and spring terms. It was found that intensive short courses achieved the same results with a slight advantage. Materials were delivered as expected. Students performed better, and as a result grades were better. Both the instructor and the students liked this type of course delivery. Several factors contributed to this slight increase in efficiency. The study however showed that this type of offering courses might not be suitable for all courses. It might not fit all students either.

Key Words: Course Duration, Intensive courses, Students' Comprehension, Education Convenience, Teaching Techniques, and Construction Management.

Introduction:

Typically, a three credit course at the collegiate level requires a total of 45 hours of direct contact between the students and the instructor. Many institutes of higher education use the regular fall and spring semesters format to spread these 45 educational hours over a period of four months. Many others teach such courses over the summer session where it is more intense since it is a six week period. There are advantages and disadvantages for both formats, and there are several limitations for the summer format.

Few colleges and universities use a shorter time frame to offer courses. Some institutes utilize the winter break to offer three week courses like Lone Star College [1]. Others, like Sam Houston State University in Texas [2], offer very intensive two week courses. Some even offer one week extremely intensive courses including for instance Cappella University [3]. Again, while this method of offering courses has its appeal and advantages, there are limitations and disadvantages.

Short Term Academic Courses:

Some classifies offering short term academic courses as non-traditional teaching [4]. Various names are used to refer to short term courses including summer, intensive, accelerated, mini-session, and flexible courses among others [4]. However, because of its current popularity across the board in higher education, it might be more appropriate to start considering offering

short term courses traditional teaching. Even those who consider it a non-traditional way of teaching note that short term courses are increasingly being used in academia.

The idea of teaching short academic courses is not new. It started at Harvard University a long time ago in the summer of 1869 [5]. Many institutes of higher education adopted this model and offered summer courses over the years. However, the idea of offering very intensive courses over a three, two, or even one week period seems to be relatively new.

The demand for accelerated courses seems to have been originated for various reasons. Some of which are legitimate while others are market-driven and are thus questionable. Top educational organizations like the Carnegie Commission on Higher Education strongly encourage universities and colleges to promote education for those who cannot attend traditional classes [6]. Many universities and colleges by virtue of their mission are structured and focused on including as many sectors from the society as possible. One platform to do so is the use of accelerated courses. Other options include evening and online courses. Nonetheless, there seem to be other instances where the use of short term and online courses are purely based on non-academic reasons due to low enrolments and budgetary restraints sacrificing academic integrity and quality [7].

The Need for Extensive Research on Short Term Academic Courses:

While many have reported on the use, effectiveness, and shortcomings of accelerated courses, we still need much more evidence to assess this way of teaching courses. This is especially the case with very short time periods like one, two, and three week intervals. Not only do we need contributions from educators on specific courses, but we need much more contributions from psychologists, behavioral experts, and policy makers among others.

Aside from a few and sporadic comments from students, there is very little research where students evaluate this educational technique. The opinions of students who are currently taking short term courses may be biased for various reasons. Opinions of students at a later stage like five, ten and fifteen years after graduation are important and needed.

That is, there is a strong need to investigate this topic holistically. Nonetheless, this should not diminish the importance and need for individual studies.

Advantages of Short Term Academic Courses:

Teaching short term courses presented itself as a viable option for several and various reasons. These reasons emanate from students' needs and institutional necessities. That is, there are many advantages to this method of teaching. These include among others:

- Students take short term courses for convenience. Instead of spending sixteen weeks, students can take such courses in one to three weeks.

- Flexibility is an advantage as students can take care of other important obligations in their lives because they are taking short courses. This includes the need to commute to school, family ties, and work requirements.
- At many universities and colleges, several courses fill up quickly. Students take short term courses over winter and summer intermission to keep up with their educational plans.
- Taking summer and winter break courses can shorten the duration of college education. A student can finish a four year degree in three or three and a half years.
- At many universities and colleges especially research institutes, faculty members are extremely busy. Offering short courses gives such faculty members the time they need to meet the demands of their research agenda and other obligations.
- Some students prefer taking one or two courses at a time during summer and winter breaks instead of five or six classes during fall and spring semesters.
- Some students prefer to take courses over a shorter period to ease their pain. This is true with difficult courses and with courses outside their immediate major.
- Many universities and colleges find this way practical because it attracts students and increase enrollments.
- Several universities and colleges consider this method rewarding because it allows them to offer courses to many who cannot attend otherwise.
- Most faculty members are on nine month contracts. They can support themselves financially with summer short term classes.

Disadvantages of Short Term Academic Courses:

Limitations, shortcomings, and concerns exist with short term courses. Examples are as follows:

- Academic quality and integrity may be compromised when a course lasts two or three weeks instead of sixteen [7, 8].
- Offering accelerated courses may “destabilize” already established methods of delivering courses [9].
- It has been reported that students tend to comprehend materials more and better over a longer period of time. A course may need more time than two or three weeks to be established [10].
- Some reports have suggested that short term learning leads to lesser learning [7].
- There are concerns about the rate of retaining course materials after finishing the class. Some might argue that students retain long term learning more and better than short term learning.
- Short term courses are challenging to many students. Some students might have difficulties keeping up with the flow of information at a fast pace rate.
- Short term courses might not be suitable for all types of courses.

- It is difficult to get enough enrollment to justify offering short term courses at some institutes of higher education where students prefer to stay away from summer and winter courses.

ABET Requirements:

There may be differences between engineering and other professions regarding short term versus long term learning. Many engineering classes require extensive technical knowledge that are difficult to process over short periods. More research is needed to compare short term engineering classes to the normal format.

In its criteria for accrediting engineering [11] and engineering technology [12] programs, the Accreditation Board for Engineering and Technology (ABET) does not give preference between short and long term courses. Rather, ABET specifies that faculty members and programs need to ensure that adequate attention and time are allocated to meet the objectives and outcomes of curricular components.

It is appropriate perhaps to state here that ABET needs to look closer at this issue. It needs to foster debate and research in this area. One suggestion for ABET is to establish guidelines or even rules and criteria.

Construction Management at Sam Houston State University:

The Department of Agricultural and Industrial Sciences at Sam Houston State University offers a Bachelor degree in Construction Management which typically has more than one hundred students. Many of the students in this program have to work extensively to support themselves. A high percentage of the students are adults. In academia, adult students are those who do not join college immediately after completing their high school education. Further, many of these students are parents. The students spend one summer to fulfill internship requirements. This is usually done one year before graduation. Offering intensive two week courses between the spring and summer is one way to help many Construction Management students.

At Sam Houston State University, offering short term courses is called mini-session. A course lasts two weeks and an extra day for examination. The classes meet every day for four hours on each day. The mini-session term takes place in the second half of the month of May every year. There are regulations and rules on who is able to undertake a course in the mini-session term. One of them is good academic standing.

The university also offers less intensive classes in two summer sessions. One is in June and July while the other is in July and August. Each lasts approximately six weeks. The Construction Management Program offers courses in these summer sessions as well.

Mini-session Courses in Construction Management at Sam Houston State University:

The author has been offering several mini-session courses in the Construction Management Program at Sam Houston State University. Other instructors within the program have offered

mini-session courses as well. However, this paper is on the observations and findings for the courses that have been taught exclusively by the author. The courses are listed next.

ITEC 3371 - Civil Drafting Technology is a required course that is offered regularly in both the fall and spring semesters. This course has both theoretical and applications components. It requires a computer laboratory. There is an upper limit on class size. As a result, the course fills up quickly. That is, several students need this course all the time.

ITEC 3372 – Construction Drafting is another required course. It is also offered twice a year in the fall and spring terms and the class size limit forces some students to wait longer before taking it. Further, students from another program within Sam Houston State University take this course. Interior Design students make up about half the class.

ITEC 3375 – Statics is an introductory design course in our Construction Management Program. Until this year, this course was not mandatory. It is now a required course in our curriculum. It was an elective when the author taught it in the mini-session term. The course is typically offered only once a year in the spring semester.

ITEC 4369 – Special Topic: Strength of Materials is an elective course in the Construction Management Program. It is listed under the special topic ITEC 4369 label but the author is working on establishing it as a regular ITEC 3376 – Strength of Materials course. It is an elective course. It is a theoretical and relatively highly technical course. The course is offered sporadically once every two years.

These courses were offered by the author as mini-session courses over a period of four years. An investigation on the suitability and effectiveness of these courses was conducted and many observations were recorded. It is hoped that sharing these observations and findings will help in assessing the suitability and effectiveness of intensive accelerated courses in engineering and engineering technology. Many positive aspects were associated with these mini-session courses along with a few concerns.

Generally speaking, it has been a nice experience for the instructor looking at it from different angles. The instructor felt good after delivering the material he needed to deliver in a two week period instead of the longer normal period of sixteen weeks. It was a focused period with nothing on his work agenda other than preparing for, delivering and grading the course. In fact, in all courses, the instructor strongly believes that he performed much better than his usual performance in normal spring and fall courses. The students were very alert, enthusiastic, focused, and cooperative; and all of that made the instructor's job easier and more pleasant. Most of the students also expressed happiness later with the courses and that is by itself satisfying and rewarding. Finally, it has been a good way to earn extra money and the instructor is grateful for this.

On the other hand, a few obstacles presented themselves with these Construction Management mini-session courses. First, it was difficult to fill up some of the courses. Many students were not aware of such courses. Many others could not take these courses because they did not meet university requirements. This however can be partially alleviated by encouraging students to take such courses. Second, teaching such an intensive course required a lot of effort and energy, and it took a lot of time. This did not leave the instructor with any time to do anything else. That is, it was like a boot camp environment. It was a very tiring task. However, the fact that summer vacation was around the corner made it a little bit easier. Thirdly, there were a few struggling students who needed special attention in some of these courses. This added some challenges and more responsibilities to the instructor. Finally, the instructor found out that some courses presented more difficulties than others. Out the four listed courses, the two drafting courses ITEC 3371 and ITEC 3372 were the best while the Strength of Materials course ITEC 4369 was the worst with the Statics course ITEC 3375 in between. The Strength of Materials course was a difficult course to teach by the instructor as well as to undertake by the students. It contains many concepts and applications for which more time was needed to deliver and comprehend. That is, teaching courses that are highly theoretical and technical similar to the Strength of Materials course using the short term intensive format does not seem to be suitable. Others have agreed with this finding [13].

It has been observed that almost all students were excellent students. There were very few exceptions. As stated above, the students were very eager to learn and they were very receptive. They were performing exceptionally well most of the time. Unexpectedly, students did not complain, as they usually do in normal fall and spring semesters, about homework and reading assignments. Assignments were turned in on time almost all the time.

The mini-session courses covered the same materials which are usually covered in fall and spring semesters. However, the performance of the students is better in the short term format. As a consequence, the grades of the students in the mini-session term were above what students usually get in fall and spring semesters. This is consistent with what have been reported in literature [6].

In an effort to explain the above finding, the following comments are made. Generally speaking, the students taking these courses registered for one course at a time, and this made them focus on only one task. That may explain their high performance. It is highly possible that only excellent students take such courses for various reasons. First, they are more responsible. Second, they are more conscious about their education. Thirdly, weaker students may be afraid to engage in fast pace intensive classes.

Conclusions and Recommendations:

In conclusion, it is believed that teaching an intensive two week course is a viable option. There are exceptions.

Intensive term format was found to be very comparable to and as effective as the normal sixteen week format in cases like drafting courses and Statics. Students were found to be more receptive to learning in the short format. Better students tend to take intensive courses, and as a result, the grades were higher than fall and spring semesters.

However, this is still not clear with highly technical and theoretical courses like Strength of Materials. More research is need in this particular aspect of this topic.

It is suggested that other instructors utilize this format of course delivery. Further, it is useful and beneficial to share observations and findings with the other educators.

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