

COMPILATION: Block scheduling with Modeling Instruction

Date: Mon, 5 Feb 2001

From: "John S. Walker" <kc0am@EARTHLING.NET>

What advantages and disadvantages have any of you encountered with block scheduling? The biggies that I see are that longer periods are good when in lab mode, but there will be less total time in the classroom (the way it's being proposed here) to cover the ground. Oh yes, we DO have to meet state standards for content coverage too!

Date: Mon, 5 Feb 2001

From: stan hutto <fizwiz2@YAHOO.COM>

I taught at a school where we did what they called A/B Block - alternating days. Then the last two years I was there we went to a modified block: Monday we met all 8 classes for 45 minutes. Then every T-Th and W-F were the same each week. (Don't even mention the "accelerated block" to me). The past two years I have been at a school that has 7 periods of 50 minutes.

Yes, in Block you get more lab time - but remember, work expands to fill the time available. I have done a better job the past two years in (dare I say it?) "covering/uncovering" the core units using the Modeling Methodology. In fact I'm four weeks ahead of last year (getting adjusted to the new schedule and school) and well ahead of where I would be back in the block schedule days. I will finish out the Mechanics material in about 2-3 weeks and start Electricity using the modified CASTLE material. I envision even having some time for waves and optics before the end of the year.

Of course some of this could be attributed to my gaining greater confidence/skill with the Modeling Method, but I think it's just a matter of I have more actual contact minutes!

Date: Tue, 6 Feb 2001

From: David Hill <DWMHill@earthlink.net>

We have been on the block scheduling at my high school for 4 years now. We have classes both in the 4 x 4 block (physics is this way) and in the A/B pattern (classes meet 90 minutes / day every other day all year long). There are advantages and disadvantages to block with physics (especially modeling).

Advantages: Full period for lab data collection and analysis, lab practicums, whiteboarding, discussions, projects, etc. You are uninterrupted with a bell just when kids get into the swing of things. You also have the time to completely develop a single concept or idea in one class period using a variety of activities.

Block is what has driven support of Modeling by my administration. All teachers were told that they could no longer "lecture" for 50 (now 90) minutes. Students had to be active and engaged in their learning. A couple visits by my administrators that first year during a lab or

whiteboarding session and suddenly our approach is fully supported. Block is a great use of time as long as you are well planned to take advantage of the 90 minutes.

Disadvantages: Like Stan Hutto, things do expand to fill the available time. You have only 18 weeks with the kids, but you cannot do two old lessons per day and just go twice as fast. At least our students need some sink-in time for concepts to take hold, so you cannot cram too much in each day. They just don't get it. Also, by calculation 50 minutes per day for 36 weeks versus 90 minutes per day for 18 weeks equals a loss of contact time. We calculated with block, assemblies, state mandated testing, other educational pullout activities (career day, college visitations day, PSAT and college entrance testing), 180 school days turn into 140 days. That's a loss of one month of school with each class!

We do have to pick out the "have to knows" versus the "nice to knows" when prioritizing what you want the students to accomplish. Traditionally in our regular physics classes in our district we only get through the mechanics units in modeling. Some skip some of those units to get into waves, optics and a bit of E & M. That's the price we pay.

During each class period we do focus more on physics than we used to and waste less time. My students have a good handle on the mechanics concepts, use of technology and graphing, models. Most importantly they can plan and carry out a great lab. They work well with their groups to solve problems and they can discuss problems and labs with whiteboarding with little questioning or prodding from me. They have become quite independent and confident by the end of the 18 weeks. I am happy about that.

Date: Tue, 6 Feb 2001
From: Brenda Royce

I moved from a 4x4 block schedule I had been teaching on for 5 years to a (mostly) traditional schedule this winter. Already I can feel a better pace with having more homework and processing time during a unit than the block.

I was feeling before I left that my students just needed more time (read that days) to process a new idea, and though I loved doing labs on a block schedule, I don't know that the added time in class necessarily got the same return. Colleagues who had spent several years teaching on a traditional schedule say they just can't get through as much material. I certainly hadn't reached the amount other modelers were getting through.

Date: Wed, 7 Feb 2001
From: Paul Zastrow

Having taught with Block Scheduling the last seven years prior to retirement, I must defend it. I found that one can cover all the requisite material and do a better job and do it in depth! I think the nay-sayers are those who are over-controlling and seem to think they must get to page 517 in the text by May 15th!

State Standards notwithstanding, the Block Schedule if done properly, with an AB schedule of alternate days and no mucking on Fridays or any other day, leads to better teaching and learning situations for both teachers and students. When you consider the Modeling Method - for physics or any other science course, it can be done and done well. As professionals, we must determine the primary concepts, ideas and attitudes we wish to cover and have our kids comprehend, and then plan an attack to ensure it is done.

Coverage of pet or favorite labs or topics has to be reconsidered and given only if time permits should they not fit into what needs to be thoroughly understood by the students. The block permits setting up the demo lab, determining what students need to measure and what controls they are to test, having them write up their lab - from hypothesis through evaluation, and then doing the lab itself. This can be accomplished in one 90-minute period, once both teacher and student are 'trained'. The next date you meet, the whiteboarding and other issues are covered. My 'kids' loved it - those in advanced courses as well as those with little math ability.

So - it can be done, the staff needs to be trained and for Block Scheduling success, teachers have to be the ones to choose it, not the administration. Then, a concentrated effort for change - in training, making transitions in teaching approaches and support for the classroom must happen. It can be successful, and my teachers at my old school would not go back to the traditional system, nor would the students.

Date: Wed, 7 Feb 2001
From: James Vesenka <jvesenka@une.edu>

At UNE [University of New England] I've been advocating a studio physics approach, only meeting in labs three times weekly for two hours. The obvious headache with this approach is that it will require another full time faculty member, or at least a modeling instructor, to handle our current enrollment. We haven't the funds to accomplish this task at this time.

The next best thing was to move to more of a block scheduling approach, meeting twice weekly for 80 minutes compared to thrice weekly for 50 minutes each (yes, we actually picked up 10 minutes in the process), in addition to a lab time. The students HATED whiteboards last semester - we had to rush to get the workbook activities on the boards and had little time to digest the concepts. We are MUCH more relaxed this semester with more time for feedback and model development. The students' feedback is much more positive.

Date: Wed, 7 Feb 2001
From: Elaine Carson <ECarson203@AOL.COM>

I was conversing with two college physics professors at our PAC meeting last evening and they both asked that we cover more E & M. I am on block and do justice to mechanics but hardly touch E & M. They both said that kids were sort of bored with mechanics because they had "done it all" at a lower level than was achieved in university physics, then they got to second semester physics and had never seen many of the ideas and started dropping like flies, so to

speaking. Block does that. I hope to start a 2 semester block approach with honors mixed in with AP students like Jane Nelson does in Florida.

Date: Thu, 8 Feb 2001
From: Robert McDowell <Physicsguru2@NETSCAPE.NET>

I teach in a modified block schedule. I have yet to get beyond the mechanics content. I think my record is Unit VII. Barring certain barriers to teaching the content (ie: student math skills), I believe that I prefer the block schedule. When I first started teaching physics, we covered the material (about 23 chapters worth) and students learned about 20% of the content. Now in the block, I cover about 10 chapters (text is supplemental now) and students learn about 75% of the material. And if I see the students the following year, they can usually answer my spur-of-the-moment physics question. Most importantly, they come up to me and discuss all the physics flubs in movies, conversations with people, etc. This never happened when teaching the traditional schedule.

Date: Sun, 11 Feb 2001
From: Jane Nelson <nelsonjb@IX.NETCOM.COM>

I was glad to see that someone is going to try the divide and conquer approach that I have found very successful for block scheduling. The universities have divided physics into two or three courses for years. They do not cover all the topics somewhat and then all the topics more. They divide the topics and cover each well the first time. Why should we not consider the same in HS?

Let's be honest and tell the students that the course will be mechanics and thermal... or whatever. Offer another follow-up course called optics and electrical, or some such. Put modern where it will fit. The school boards and state departments don't have a problem with the fact that alg and geom are split. The two could easily go into a math 1 and math 2 class, but they aren't usually found that way. The only reason is that it has not been done that way in the past. What a stupid reason for continuing a tradition.

Date: Sun, 11 Feb 2001
From: Tim Burgess <TimBurgess@juno.com>

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- > not consider the same in HS? Let's be honest and tell the students that
- > the course will be mechanics and thermal... or whatever.

The major reason for spiraling back to earlier mechanics topics is mathematical sophistication (at least among my students...originally sophomores). When investigating oscillations, waves and

sound, the 10th graders I teach are not well prepared for trig function expressions etc...later in an AP Mechanics for those who are truly interested (that take that course) they are very ready in terms of experience and mathematical savvy.

Date: Mon, 19 Feb 2001

From: Wayne Finkbeiner <WJFinkbeiner@AOL.COM>

In my school district we have been teaching physics in blocks for the last seven years. We have 90 minute periods for 18 weeks and have divided our courses accordingly. AP Mechanics 1st semester and AP E & M 2nd semester. The problems that occur are due to the scheduling of the AP Exam. The students that take the Mechanics 1st semester have completed the course by the end of January. This time delay does influence the scores and who takes the exam.

Some students decide to not take the exam at the last moment or do not care because of the delay.

The AP mechanics is a prerequisite for the AP E & M.

The Physics course is again split into 2 semesters. First semester mechanics and 2nd semester E & M along with waves and light. There is no prerequisite.

Conceptual Physics is another alternative using the Applied Physics Curriculum for 18 weeks (one semester).

I have collected my data using AP scores and SAT 2's. The students do not measure as high with block scheduling. And the most important thing is your enrollment in physics will decrease.