

Resource Management Timetabling

Terry Phillips discusses the role of the timetable in the efficient management of an EFL school

Any solution to the problem of timetabling, paper-based or computer-assisted, must recognise that the timetable is the key resource management tool in a language school. Tactical management is largely about resource management, and the timetable brings together all the key resources that must be managed by the tactical manager - teaching staff, supervisory staff, classes, rooms, time and, in an elegant timetabling solution, physical resources such as videos, OHPs, etc. The printed timetable can also be one of the key channels of communication by which new and on-going information can be disseminated in a controlled way to staff. Information is one of the key resources that a tactical manager has to manage. If you lose control of the channels of communication, rumour takes over, and the simplest piece of information is distorted in the telling and retelling. The very best kind of communication channel is one which goes to everyone concerned at the same time and is read by those who received it because they want to, not because they are told to. All teachers want to read the timetable as soon as it comes out, so it is the very best way to communicate the majority of day to day information to them.

Ideally, the timetabling solution I am proposing should be database driven. But since I know a fair bit about spreadsheets and very little about relational databases, this version is spreadsheet based. I call it the Resource Management Timetable (RMT).

In the first extract from the spreadsheet (Table 1), we can only see details for two days. This is to simply to improve readability. In the full version, every day that the school is open must be listed - printing would be on A3. Listing every day separately is essential, despite the fact that Wednesday's classes, for example, may be 'the same' as Mondays. The basic structure may be the same, but what if there is a meeting on Wednesday but not on Monday, or if Room 1 will be out of action on Wednesday for some reason? To be fully effective as a channel of communication, each day must be clearly listed.

When reading the following timetable, imagine that this school has:

- 5 rooms - numbered 1 to 5
- 5 teaching slots of 1_ hours each day
- 8 levels of General English classes - from Level A to Level G
- 8 teachers - T1 - T8; in the real version, each teacher would, of course, have unique initials e.g. T1 might appear as AM for Anne Murray.
- 2 supervisors (S1 and S2) and two managers (M1 and M2)

The key points to notice about this RMT are:

1. Information can be accessed in four main ways - by teacher, by class, by room or by time. We can see at a glance which teacher is teaching which class in which room at which time of each day.
2. We can also see who is on Reserve (R) if a teacher is absent at a particular time. This means you, as the tactical manager, do not have to spend your time checking teacher arrivals at every class start time - the nominated reserve teacher, for example, could take that role.
3. We can see which manager is on Duty (D) at each time. All staff - not just teachers - therefore know who to come to in the event of a problem. It is very important that such 'information nodes' are set up in a business so that one

person, usually the DOS, is not accessed for every possible piece of information.

4. Class names are meaningful. A13 is a class at Level A, which begins at 13:30. A132 is a class at the same level and time but it is on a Tuesday. What code name would you give to a different class at the same on a Wednesday? What if you had two classes at the same level at the same time on the same day?
5. There is an extra cell for each room for each day. Physical resource information can be given there - for example the video set will be in Room 1 on Monday but Room 2 on Tuesday (Cleaner - please note).
6. Since this timetable is going to every member of staff - including ancillary staff - anyone can help a student or a new teacher to the correct location. The timetable, or a version of it, could even be displayed for student use.
7. Special notices which are time-related can be included on the timetable - for example, D13 in Room 5 is a new class starting on Monday 12th - so the cell is shaded. Oh, and there is a Staff Meeting at 16.30 in Room 2.

In Table 1 we can see how a daily timetable can give key information about occupation of rooms by particular student groups, and teacher allocation. It can also be used to convey general time-related or resource-related information.

WEEK BEGINNING 12.02.01		WEEK NO. 4		ROOMS				
DAYS	TIME	1	2	3	4	5	R	D
		VIDEO	OHP					
	13.30	A13	B13	C13		D13	S1	M1
	T	T1	T2	T3		T4		
M	15:00	A15	B15	C15	E15	D15	S1	M1
O	T	T1	T2	T3	T4	T5		
N	16:30	A16	B16	C16			S1	M1
D	T	T1	T2	T3				
A	18:00	A18				E18	S1	M2
Y	T	T5				T3		
	19:30	A19	G19		E19	F19	M2	M2
12	T	T5	T6		T4	T8		
		OHP	VIDEO					
	13:30			A132	B132		S1	M1
T	T			T11	T21			
U	15.00			A152		B152	S1	M1
E	T			T1		T2		
S	16:30	A162	Staff Meeting				S1	M1
D	T	T1						
A	18:00			B182	C182		S1	M2
Y	T			T3	T2			
	19:30		G192	H192		M2	M2	

Table 1: RMT for teachers, rooms and student groups + physical resources + general communication channel:

		TEACHERS										CLASSES															
		ROOMS								CONTRACT			HOURLY				LEVELS										
DAYS	TIME	1	2	3	4	5	R	D	C	T1	T2	T3		T4	T5	T6	T7	T8	TOTAL	A	B	C	D	E	F	G	H
		VIDEO	OHP																								
	13.30	A13	B13	C13		D13	S1	M1	6										1.5	1.5	1.5	1.5					
	T	T1	T2	T3		T4				1.5	1.5	1.5		1.5				6									
M	15:00	A15	B15	C15	E15	D15	S1	M1	7										1.5	1.5	1.5	1.5	1.5				
O	T	T1	T2	T3	T4	T5				1.5	1.5	1.5		1.5	1.5			7.5									
N	16:30	A16	B16	C16			S1	M1	5										1.5	1.5	1.5						
D	T	T1	T2	T3						1.5	1.5	1.5							4.5								
A	18:00	A18				F18	S1	M2	4											1.5					1.5		
Y	T	T5				T3						1.5			1.5				3								
	19:30	A19	G19		E19	F19	M2	M2	6											1.5				1.5	1.5	1.5	
12	T	T5	T6		T7	T8									1.5	1.5	1.5	1.5	6								
							28			4.5	4.5	6	0	3	4.5	1.5	1.5	1.5	27	7.5	4.5	4.5	3	3	3	1.5	0

Table 4: RMT for product mix:

CLASSES						
THIS WEEK			SEMESTER TO DATE			
LEVEL	TAUGHT	%	TAUGHT	TARGET	VARIANCE	VARIANCE %
A	36	35%	144	160	-16	-10%
B	22	21%	88	88	0	0%
C	15	14%	55	55	0	0%
D	12	12%	40	24	16	67%
E	10	10%	30	24	6	25%
F	5	4%	15	15	0	0%
G	3	3%	12	12	0	0%
H	2	1%	6	6	0	0%
TOTALS	104		390	384	6	2%

So in this example we can see that you taught 36 hours of Level A this week, which was 35% of the total.

We can also see (bottom right) that overall you are 2% up on hours taught against target. But you are 10% down on the number of hours budgeted for Level / Product A for the semester to date. What about Level D and Level E? If Level A is high profit and Level D is low profit, your profitability has declined although the

number of hours taught has increased. Perhaps you have been thinking whilst reading the analysis tables - surely this information is confidential and would not go to the staff, or be displayed on a noticeboard. That, of course, is your decision. If you adopted something like the RMT, you could, of course, simply print and distribute the actual timetable information with none of the analysis. However, you may be missing an important element in

achieving staff satisfaction and involvement if you do that. In my experience, contract teachers are extremely concerned about the number of hours they teach and, perhaps more importantly, the number of hours that others teach. The first thing many teachers do when they get the timetable is to add up their hours and the second thing is often to add up all the other contract teachers' hours. So publishing this information, for the week and for the semester to date, shows that you are aware of discrepancies and, assuming this is true, that you make adjustments in the medium term which ensure that all contract teachers are treated equally.

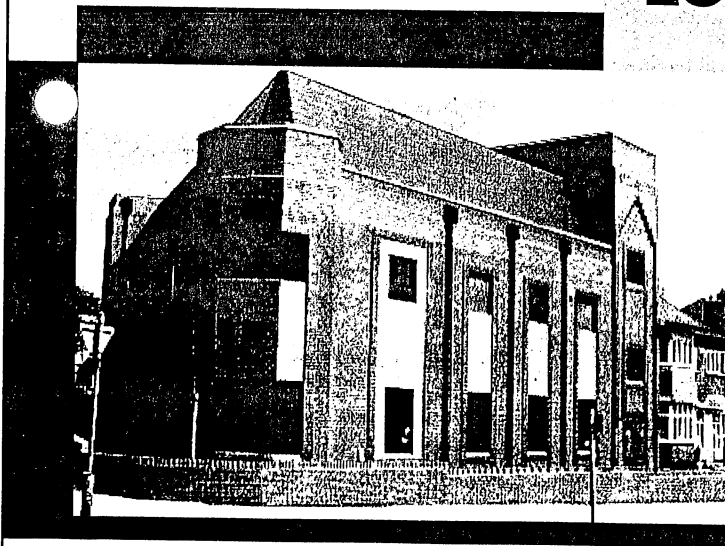
This article is about a process, not a product. I do not have an all-singing, all-dancing version of this idea and I would be delighted if someone produced one, or, even better, paid me to do so. But I do have an electronic version available of what you see here, which enables you to play with it and see the possibilities. If you would like a copy, email me at terry@wtc-in-elt.com.

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