

# Whitefield School

## *Edval Case Study*

**Whitefield School** is a secondary school and sixth form located in the London Borough of Barnet. It was in the top 1% most improved schools in the country in 2010, and caters to nearly 800 pupils.

## Situation

Principal Mrs Elizabeth Rymer contacted Edval, advising their timetable was in significant distress. After nearly an entire school term had elapsed, it was still not complete. Significant problems existed in many areas, including teacher clashes and senior classes still unstaffed. The *in-house* timetabler had just left on long-term stress leave, but as in many schools, they were the only one skilled in timetabling. Things were acknowledged as quite a disaster at this point, and both education quality and wellbeing of all was at risk.

## Response

The first email requesting emergency timetabling support arrived 4:45am October 16th. Edval's UK office responded at **4:59am**, with an offer to physically attend the school on-site, that **very same day**. Edval attended a day later, gathered all the relevant data and engaged with the school. By the end of the very first day on-site, Edval had produced the first **full-draft complete rewrite** of the timetable.

Over the course of several days, Edval attended on-site, conducted face-to-face interviews with heads of departments, and made timetable changes in response to a multitude of requests.

## Outcomes

Every one of nearly one hundred change requests from staff, was incorporated into the new timetable. All timetable change requests were addressed satisfactorily, within the **same day** of being requested. Most changes were even made successfully **on the spot**, while interviewing department leaders. This enabled them to better see the outcomes of any change requests, because these were almost immediately visible.

In all respects, the improved timetable was dramatically better, and regarded as the best timetable the school has ever seen in recent memory.

## Staffing

Initially, there were some senior classes still not staffed after a full school term - however almost every new staffing request was satisfied easily. Staff loads were also found to be better balanced.

The school was advertising for a new full time science teacher, but Edval's solution quickly reworked it so this was a FTE 0.5 position, saving the school considerably - with half a teacher's salary saved. They then reworked it with only three split classes in KS3, to achieve a saving of the entire teacher's position!

The greater visibility on staff loading and more efficient allocation resulted in Edval showing the school had a surplus of staff of perhaps 200 periods, or approximately five full time staff. Now having seen what Edval can achieve and has already, I am confident the school could elect not to replace departing staff and in time reduce the staffing budget by at least three or four teachers - which would be a huge saving to the school.

There were no unwanted split classes, only those specifically requested by the school. Those which the school did want split, were found to be improved such that the split ratio of lessons was better allocated.

There were previously 28 teachers who were teaching every period of the day, and more than half of these were teaching two full days per cycle, several three or even four - a total of 46 busy days. Edval's solution required only 12 teachers to be on a full day, with none of these needing to be on more than one busy day. This is a very significant reduction in teacher workload and stress - around 75% fewer busy days. Additionally, staff timetables were generally more spread out, with PPA periods more balanced overall.

Department meetings have always been previously run after school, due to the difficulty in timetabling these. Edval however, actively incorporated meetings for every department within normal school periods. For most of these, a meeting was scheduled once per week, in a teaching period. This is significant in reducing staff workload and stress, as they are not then required to remain after school for meetings, and can go home to families. The benefits to staff in achieving this unusual arrangement are amazing.

## Students

Edval's reporting and consulting advice was able to detect numerous data inconsistencies in class lists and other areas, which were able to be rectified.

The original timetable had six senior blocks, however this resulted in most senior students only able to have classes of eight periods, instead of the intended nine. In reality, due to the poor quality of the solution at that point, some classes were only seven periods, with some only six. This was dramatically reducing the teaching quality. Edval was able to rework the existing option blocks, reduce the *number* of blocks from six to five, and then reschedule so that all students had nine period classes, as this fit the new structure. It enabled a dramatic increase in teaching time per week for the many affected students, some now receiving an additional two hours per week tuition.

While reprocessing the option blocks in two years, Edval was able to collapse a class together of three different subjects, which had each been running two classes in different blocks. This resulted in an immediate saving of a teacher for three classes, and a room. It also have flow on benefits to students, as the small class only had very few students in some of these cases, which made peer support / team work difficult. It was also a workload equity issue, with one teacher having a much bigger class than the other. This also makes exams and excursions easier, and ensures more consistent teaching, and with the preferred subject teacher for all students. We didn't realise how easy it was for timetable algorithms to collapse classes across blocks in this way, but the benefits are spectacular.

The Head of MFL casually remarked that it would be good to set one of the languages in Yr8, as this had not been done before. Edval was able to achieve this, but then went much further. The new solution was constructed to link both Spanish and French classes together in pairs, in *both* Yr7 and Yr8. This will significantly improve the ability to teach these classes. Additional similar requests such as blocking games were also incorporated with apparent ease.

The Yr8 and Yr9 music classes engage with additional external tutors for two lessons a cycle, but some of these classes were not getting their full allocation properly. Edval rectified this, and went much further. The new solution was set such that these peripatetic tutors were not required at all on a Thursday, or last period at all in one week. This greatly improved the efficiency of these tutors.

## Spread of Lessons

The existing solution had many classes being scheduled as two single lessons on the same day, sometimes with only one lesson between. This was very disruptive. The Edval solution had far better

arrangement of lesson times, where this problem was almost never occurring. Edval was able to deliver a double period for science, which was requested, but not satisfied in the old solution.

## Rooming

Edval's solution had noticeably better rooming in a number of specialist subjects, where rooms that were in-demand such as multimedia, were allocated more often, and more equitably. This was despite the fact Edval had restricted the blocks to physically schedule more lesson times for senior classes - being at least one additional lesson each of the five blocks, and sometimes two additional lessons.

There were 218 lessons not in teachers' home rooms before, but the Edval solution delivered only 85 lessons out of home rooms. This equates to 133 lessons *more* taught in teacher own base rooms, or a 61% improvement in the new solution.

Classes were far more consistently roomed, which we feel improves teaching quality and can reduce behaviour problems due to the reduced disruption. The current had over 30 classes with three or even four different rooms, where Edval's solution had only 15 classes with three rooms, and none with four rooms. This is over a 50% improvement in rooming consistency.

The PE rooming was significantly improved. Previously, there were many instances of multiple years being scheduled on the same periods, resulting in over use of the outside space facilities. They were not intended to support two year groups on at a time, but this was occurring on quite a number of occasions before. The Edval solution had no such instances of doubling up on whole year groups, and only one instance at all, where a small senior class was scheduled together with a junior class - which was deemed quite acceptable. Overall, this was a dramatic improvement in the space utilisation thanks to Edval.

A side benefit of better spread of PE, was this allowed more staff to take the right classes. Previously there were many periods where all PE staff were idle, where others there were not quite enough - due to too many classes on at once. The Edval solution addressed the staff utilisation as well as the space, very well.

## Training

Edval provided basic training in the theory of timetabling to our staff, where eight senior staff from the school attended a full day course. During this training, the Edval CEO Chris Cooper demonstrated constructing the entire Whitefield School timetable from scratch, including rooming. This was done in about five minutes, as we watched, which was impressive.

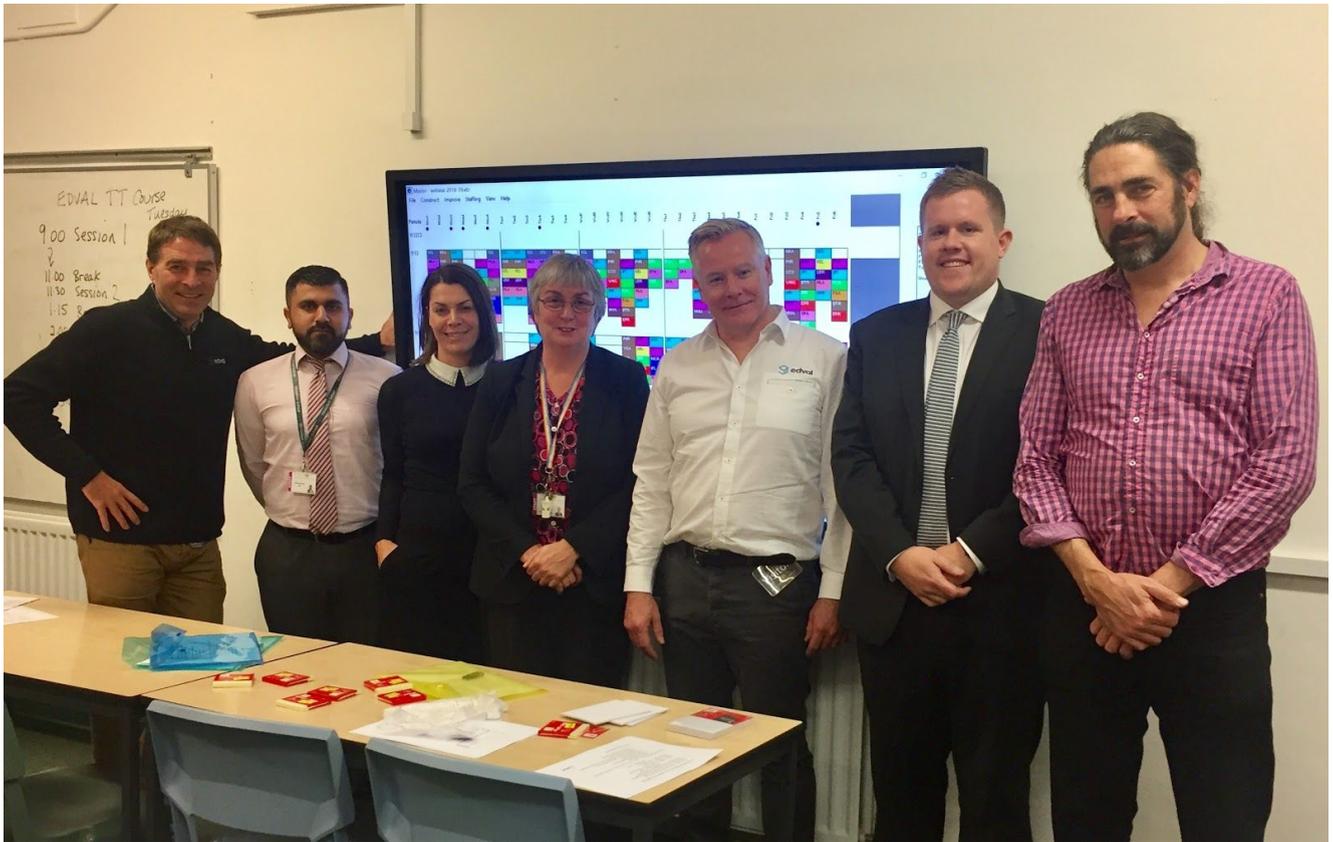


Photo depicts: Chris Cooper (Edval), 2x Whitefields staff (Tina), Mrs Elizabeth Rymer (Headteacher), Paul Phillips (Edval), Whitefield staff, Dr Tim Cooper (Edval)

While we can't confirm the quality of the solution in this quick demonstration, it mirrors what we have already witnessed a number of times. Almost all the timetable changes requested were done same day, and often on the spot as we sat with the consultant.

This contrasts with the previous experience of timetabling, where even the smallest change request seems to take days or even weeks.

## Integration

Edval wasn't yet integrated with our MIS (Bromcom) when the project began, so our school was the first one. We understand that there were actually no specifications available from Bromcom on how to integrate with their system, which would be somewhat of a challenge. Edval was however, able to apparently reverse engineer the file format needed by the MIS, and we were able to upload our timetable.

Some minor errors were fixed, both in the Edval data format, and also by Bromcom which made some improvements to their handling of timetable data from Edval. Within a week, we were able to correctly upload our timetable to Bromcom, which was a relief. It was impressive to see how quick it was for Edval to integrate with our MIS, even without detailed specifications. This shows good responsiveness in Edval's development.

## Cost Savings

Cost sharing as a new approach was discussed. We recognise the value of this model, and would definitely have been interested. Edval delivered significant savings, but these were not known at the

outset. Incentivising Edval on a commission basis to assist the school save money seems a good partnership, and we would be quite open to this model in future, or suggest other schools consider it.

In total, the savings Edval delivered to Whitefields school are estimated at being approximately 1.5 full time teaching staff members, so significant.

## Timetabler in Residence

We lost our timetabler on sick leave, and they subsequently resigned. Edval was able to step in, and assist the school at short notice, as part of the Timetabler-in-residence service. They were able to resolve things, including re-timetabling the school in a major way.

As part of that process, Chris Cooper interviewed all my senior leaders about their needs in the timetable. Given the extensive support Edval provided in a short period, the total bill was over £12k, but was well worth it for the value Edval delivered (being far less than the savings delivered), and the improved Educational outcomes. It also took so much stress away, once the new timetable was finally resolved.

## Conclusion

The school had been suffering from a lot of difficulties in many areas, with the poor quality timetable being seen as the root cause of a lot of the problems. Edval has come with some amazing technology, and matched this with very experienced consulting advice, and outstanding support. The results are nothing short of spectacular, and have been met with disbelief, but complete delight from the entire teaching staff.

In every area possible, Edval's timetable seems to have exceeded by a large margin - including many different areas we had not previously considered before, or thought was capable of being improved. This includes the fact they have demonstrated a clear ability to immediately save the school vastly more than their solution cost. Edval also showed us a roadmap for us to save a number of full time teacher salaries in future, which will be a significant and ongoing saving to the school.

In my **20 years** of experience, and many as a headteacher, I've always seen timetabling as a process that takes a month or two to complete, and is always very difficult and time consuming to change. This greatly impedes efficient use of our resources.

What we have discovered in Edval, is a capability to generate timetables **within a single day**, and that in most cases, the software was able to reconfigure the entire timetable automatically, as fast as my team or I could request changes. We were literally sitting there watching on the spot, as the whole timetable was updated for even the most significant requests, such as reducing from six blocks to five, or changes to part timer days off . This dynamic timetabling approach seems to be a game changer. There was no unpicking and redoing, or even constructing. It was all just morphing an existing solution to a better one as requests came in. I can't believe we or others of my colleagues have not heard of this technology before.

Not only did Edval deliver a result that saved us their own fees many times over, they did it in record time. Ultimately though, the greatest benefit by far our school will enjoy, is an amazingly better timetable. This will positively impact both students and our staff, and in wellbeing, retention and teaching quality.

I simply can't recommend both the Edval technology or their services highly enough, and would happily take any queries if other schools wanted to inquire more about our own journey to a better timetable.

Mrs Elizabeth Rymer

**Headteacher**

Whitefield School

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