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Schools of Tomorrow

SHAPING OUR FUTURES

Developing student-led research as a springboard for school transformation

Students from the Learning Futures project
with Malcolm Groves, Andrew Hobbs and Chris Smith

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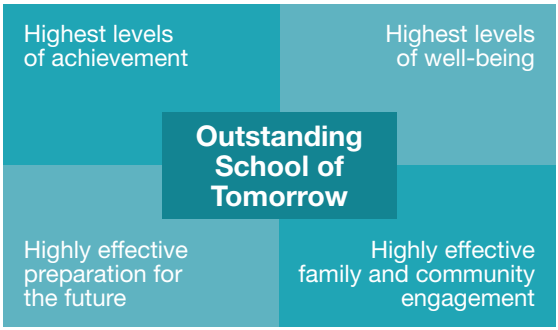
About Schools of Tomorrow

www.schoolsoftomorrow.org

Schools of Tomorrow (SoTo) was launched at the RSA in London in October 2013 as a not-for-profit social enterprise, owned and led by school leaders, our members. Its purposes are to:

- articulate, refine and position the concept of 'the school at the heart of its communities' within current educational and social priorities, and demonstrate the contribution of such schools to learners' achievement and well-being as well as the long-term improvement of the country's social and economic fabric
- develop the vision of how such a concept can be translated into practical implementation within any refocusing or readjustment of national policy
- build a voice able to articulate that role, both its contribution and potential, to government, present and future, whilst also building a wider network of support for the concept
- develop and offer services and support of value to schools who place themselves 'at the heart of their communities' and those who might aspire to do so.



We believe the most effective schools not only secure high levels of achievement, in every sense, for all their students, but also lie at the heart of their communities. Our first publication, *Towards a new understanding of outstanding schools*, written by Professor John West-Burnham and Malcolm Groves, identified four fundamentals of equal importance if a school of tomorrow is to be of the highest quality.

Subsequent events, publications and research and development groups have begun to unpack the implications of each quadrant for school leadership and practice. The resulting accounts of thinking and practice are published in a series of pamphlets, *The Beauchamp Papers*, and are available for free download on iBooks and Yudu.

About SSAT

www.ssatuk.co.uk

SSAT, the Schools, Students and Teachers Network, began helping transform education in England in 1987. Back then our role was to support and nurture the first City Technology Colleges. As specialist schools and then the first academies came into being, our brief was extended to supporting them as well. That work, underpinned by our 'by schools, for schools' ethos, laid the foundations for many of our activities today... the innovative leadership and teacher CPD programmes, the commitment to thought leadership and research, and, of course, the network of school leaders and innovative teachers which still drives all that we do.

About the authors

Malcolm Groves and Andrew Hobbs are co-founders and joint managing directors of Schools of Tomorrow. Chris Smith was, until February 2015, student leadership coordinator with SSAT.

Introduction to the Learning Futures project

Malcolm Groves and Chris Smith

From very early on, it became a key principle in Schools of Tomorrow's approach to seek ways to involve learners directly in our work. After all, tomorrow belongs to them. We also knew at first hand the power of the contributions they can make, as well as the real significance of student engagement in learning in building a learning culture within a school.

The challenge has been to find ways to engage learners meaningfully in activities which have value for them but which also contribute to a bigger picture, bearing in mind the logistical issues involved in bringing groups of learners together from around the country.

In 2013, we made a start by inviting learners from member schools to collect, record and send in their 'Dreams and Wishes' for their future. A small group of learners from participating schools then met at Warwick University, analysed what had been sent, and produced two short films, *Dreams and Wishes*, to summarise their overview of key messages for schools. These can be viewed at https://vimeo.com/70411396 and https://vimeo.com/70412629.

From this small beginning, Schools of Tomorrow saw the opportunity for a much more developed and structured approach, which has evolved into the notion of student-led research undertaken by groups of learners in their own school, but equally contributing as part of a wider framework. As a result, interested schools were invited to bring two pupils to Warwick University in June 2014 to help those students prepare to lead an in-school research project. Ten schools accepted the invitation, including two primary schools.

During the day, they joined in a session with Professor Keri Facer, Professor of Education and Social Futures at Bristol University, to develop their thinking about the future, and they took part in research skills training with SSAT's student leadership team. The students' aim was to become ready to lead a group of fellow learners in conducting a meaningful research project.

Their practical workshop training covered:

- research ethics
- different methodologies including questionnaires, interviews, focus groups, and observations
- active listening skills
- effective use of questions
- constructive and sensitive feedback
- analysing data and report writing
- making recommendations
- action planning their SoTo research project in school.

A separate workshop for teachers emphasised their role as facilitators rather than directors of the project.

On return to school, the students were asked to meet with the peers who were going to assist them, and to produce a research project plan, which was focused, manageable, and relevant to their school context. The project would initially extend over a six-month period.

The choice of research project was to be guided by two overarching questions to examine within the school and with fellow students, which it was hoped could also contribute key insights in developing thinking about the nature of the outstanding school of the future:

- How does my school think creatively about the future?
- How does it prepare me for the future and help me to influence that future?

The wider significance of this work

In his contribution to SSAT's Redesigning Schooling campaign, *Student impact in the redesigned school*, Tom Middlehurst argues that schools should move from student voice and leadership to a 'yet more ambitious stage: student impact'.[1] This, he explains, extends both student voice and leadership but with a shift of focus from structures to outcomes.

It is difficult to take issue with the argument that any activity students undertake should have a tangible impact and outcome, either for the school as a whole or the students themselves – or, of course, both. A growing number of schools are now embracing the principles of student impact. Running high-quality student-led research projects – such as those included in this report – is one increasingly popular and effective way of engaging students and staff in student impact activity.

Students as researchers are groups of school students who have been trained in rigorous research methodologies and then design and carry out their own research projects in their school. These can be carried out independently of staff, but are usually done with some input and scaffolding from a teacher.

There has not been a great deal of research carried out, or even that much written, about students as researchers. The little that has been written has identified a number of positive outcomes. Bragg and Fielding for example have described how it can transform students into 'change agents', while Middlehurst has pointed to the fact that it can 'add to the knowledge and understanding staff have of the school and its community'.[2]

Despite the potential positives, it is important to recognise at the outset that when run poorly, student research projects can have little to no impact, or even point schools in the wrong direction. When projects are run well, we do know that they enable schools to tap into the unique insight and knowledge of students, while giving the students opportunities to develop a variety of useful skills and have a real impact in the school.

But even when they are run well, the impact can be limited if the findings are not taken seriously or the report is shelved without being fed back to appropriate staff members. At its most effective, student-led research projects should feed into schools' normal cycle of self-evaluation, providing evidence to be supplemented by and triangulated with all the other types of evidence that schools will be gathering as a matter of routine.

Often students as researchers will highlight areas of concern. They may point to areas warranting further investigation or might even conclude by making recommendations as to what positive change may be brought about on the back of their findings. As Hannah Taylor and Gill Mullis point out, when students are given ownership of a research project it often leads to 'unexpected outcomes and understandings' that can prove invaluable to a school.[3]

Of the ten schools involved in the Learning Futures project, six were able to complete what in all cases has become the first stage of their work by January 2015. Of the others, two projects are still ongoing, and two, affected by changes of leadership in the school, have had to be deferred.

It is clear from the reports of the six schools contained in this publication, written in the main by the lead learners themselves, that the experience has been extremely positive for the learners and for the school. All the schools involved are looking to build further on this first step, and Schools of Tomorrow is building the work into its thinking about quality and into its future plans for a fellowship of schools committed to building the values of a future-oriented school and to supporting values-led change through partnership.

The reports demonstrate the potential power of utilising pupils as researchers in school, but the experiences of the schools involved also point to some of the limitations and difficulties of doing so. However, if schools are willing to share their experiences, as those in these pages have done, and others are willing to learn, it seems clear that student-led research groups could prove of great worth to schools across the country.

References

[1] T. Middlehurst, ***Student impact in the redesigned school***, London: SSAT, (2013). p. 2.

[2] S. Bragg, M. Fielding, ***Students as researchers making a difference***, Cambridge: Pearson publishing, (2003), & T. Middlehurst, ***Student impact in the redesigned school***, London: SSAT, (2013). p. 24.

[3] SSAT & NESTA, ***Meeting the challenge of a 21st century education and a global economy***, NESTA: London, (2010), p. 7.

Research report 1

The Hollins Technology College

The Hollins is a progressive 11-16 co-educational school in Accrington

PROJECT MANAGERS
Megan Adshead and Seona Bailey (Y9)

EXTENDED PROJECT TEAM
Elizabeth Dawson (organiser), Coby Bolton (admin) (Y9)

STAFF FACILITATOR
Julie Turner

The question chosen for our investigation

Our original question was '*How do you improve engagement in learning to positively impact on standards?*'

We had to review the focus of the question because the original focus (to obtain student voice on teaching and learning) was too wide and taking up too much time for little results.

The revised question was '*What is the most effective way to gather information from students to improve the quality of learning in geography?*'

The revised question, by requiring work in just one department and focusing on how we gather the information, was more manageable and enabled us to obtain results. We also realised that if we didn't know the best ways to research then how could we obtain reliable information? The intention is to use the data from our revised question to address the original question in phase 2 of the project.

Why we chose the question

- We chose the original question so we could influence the uncertain future of learning. It was an ideal opportunity for us to get an insight now, as education seems to be changing rapidly. We wanted to represent students in having a say in how the teaching and learning in geography might look.

- Previous to this research, although we have a strong student voice (student council), we felt that as a school, we had not really been involved in providing feedback regarding the future of teaching and learning or learning in the classroom.
- As learners ourselves, we felt that we could relate to the students being questioned. Also, because we are learners, we were genuinely inspired to learn about learning! We also wanted to transfer skills we would learn in this project so wanted to pick something where what we learnt could be used in different contexts.

Our research, design and methods

1. Confirm project focus and gather the team.
2. Create an action plan.
3. Research baseline data, the logistics of the initiative, what makes good research, and effective questionnaires.
4. Use information from completed questionnaires to enable us to carry out student interviews.
5. Analyse data/findings and create a report about the best method to gather student voice on teaching and learning; obtain useful information about the strengths and areas of improvement for the head of geography; reflect on us as researchers and our project.
6. Present all our findings to SLT (senior leadership team) and other relevant individuals within school.

Our reasons for choosing this approach

- It would enable us to create a more thorough and organised project, and also allow us to use the techniques that we learnt during our training.
- As researchers we wanted to develop our skills and ability to be more methodical and not rush through things.
- A lot of the skills needed for this project were new to us and if perfected would be beneficial to not only our future projects but to other situations as learners. Also as learners, we wanted to learn to be more resilient and learn what to do when things don't go to plan, instead of just asking the teacher.

Problems we encountered

- We thought that the plan would flow smoothly but we realised that we had to be more flexible, some things took more or less time than planned and our project team kept changing until we got the right team together.
- When trialling the questionnaire we encountered some problems with the design and needed far greater time to produce a 'perfected' model.
- After carrying out the questionnaires, it became apparent during the interviews that some students had not given honest answers or had copied from each other.
- We massively underestimated how much time was needed for the project as a whole.
- We also had some issues with student behaviour in group and pair interviews.
- We worked with 30 students. Is this sample size big enough?

Our findings/outcomes and impact from the research already

- The most effective method for obtaining information about teaching and learning is one-to-one interview.
- Although we had some discrepancies in the student questionnaire feedback, following meetings with students we were able to provide the head of geography with valuable feedback about the strengths and areas for improvements in geography.
- We also identified strengths we as researchers already had and also developed a set of new skills that we can use again.

Taking things forward

- We now plan to expand this initiative to other subject areas.
- We plan to apply the skills from this initiative to other whole-school initiatives such as peer teaching and primary school mentor projects.
- We would like to show other students how to go about other research-based projects.
- We are planning a celebration of our efforts!

Research report 2

Pershore High School

An academy for 12-18 year olds in Worcestershire

PROJECT LEADS
Emmie Bewley (Y10), Kacper Boniecki (Y9)

STAFF FACILITATOR
Dean Merrick

The learning ambassadors at Pershore, through the Schools of Tomorrow project, wanted to identify the level of challenge that occurs in the classroom. This was to follow on from and complement their work in the classroom.

A survey was put together to establish how challenged students felt in lessons. From the first survey, over 22% of students responded that they didn't feel sufficiently challenged. Together with this, 71% of students said they felt that the challenge was just right. However, it was felt that we needed to dig deeper below these general responses in order to establish whether students were being challenged in all of their lessons.

The learning ambassadors wanted to understand where students felt they were not being challenged. For this reason, a second survey was conducted with a question inserted that allowed students to highlight the lessons where they did not feel challenged.

The results of the surveys are displayed on the next pages.

Survey 1 - June 2014

Question 1

What year group are you in?

Answer choices	Responses
Year 8	55.86% (62)
Year 9	44.14% (49)
Total responses	**111**

Around 50% of key stage 3 students completed the survey. This, allied to the quality of responses received, should ensure the reliability of the study.

Question 2

Do you find your lessons challenging enough?

Answer choices	Responses
Not sufficiently challenging	22.32% (25)
Just right	71.43% (80)
Too challenging	6.25% (7)
Total responses	**112**

A key statistic from question 2 is that over 22% of students surveyed did not feel sufficiently challenged in lessons. Together with this, 71% of students said that the level of challenge was 'just right'. If students are suggesting that the level of challenge is 'just right', we would like to establish whether they could be stretched further in certain lessons.

Question 3

What would give you the right level of challenge in a lesson?

Answer choices	Responses
Extra tests	7.14% (7)
Classes of the same level of students (sets)	90.82% (89)
Extra homework	4.08% (4)
Total responses	**98**

An interesting theme here is that 91% of students surveyed suggested that they would prefer to have classes with students of the same ability. While this is done in some subjects at key stage 3 it is not possible for this to occur across the school. This may indicate that not enough differentiation is occurring and, as a result, some students are not suitably challenged.

Useful extra comments:

- Work for more capable students in lessons – linked to differentiation.
- Different activities that challenge our understanding – linked again to differentiation.
- Less work sheets and more practical activities.
- More help in lessons.
- Less homework will allow us to complete homework to a better quality with less stress.
- I think we should range what type of teaching happens so it isn't all copying out of textbooks/answering questions through a textbook.
- Fun lessons more often.
- Take out the people who make it difficult to listen.
- Some lessons are hard but not all of them.
- Get rid of the annoying people.
- If the work we did in lessons was specific to certain levels – linked again to differentiation.
- Don't deliberately ignore people.
- Teachers treat all students the same.

The most common theme in lessons is that for some students, work needs to be more specifically targeted to their needs. This could include differentiation for students who understand the work and therefore, require that greater challenge. Additionally, gifted and talented students require work that will progress their learning more quickly and, furthermore, work needs to be set for students who don't understand or are at a lower level, particularly in mixed ability groups.

Survey 1 has indicated that some students are not challenged in all of their lessons, which obviously affects the amount of progress that they can make. This will ultimately impact on the school's results in the longer term. This survey does not indicate where students are not feeling challenged and for this reason, an additional survey needs to be done to allow the researchers to gain more information.

Survey 2 - November 2014

Question 1

What year group are you in?

Answer choices	Responses
Year 9	53.76% (100)
Year 10	46.24% (86)
Total responses	**186**

Although this survey covered students from year 9 and 10 as opposed to year 8 and 9, they are the same students, having moved up a year by November 2014. It was decided to use these students for consistency as they had completed the original survey. This approach would generate information across two key stages and, particularly at key stage 4, there would not be answers based on whether the students like the subject. Furthermore, there was a greater student response to ensure a greater probability of reliability.

Question 2

How challenging is the work in lessons?

Answer choices	Responses
Not sufficiently challenging	12.9% (24)
Just right	82.26% (153)
Too challenging	4.84% (9)
Total responses	**186**

Although almost 13% of students indicated that they did not feel sufficiently challenged in lessons, this was nearly 10% lower than the previous survey. Eighty two per cent of students indicated that they felt the lessons were 'just right' (an increase of 11% on June). The researchers felt that these results could indicate the possibility of students being stretched further still to enhance progress.

Question 3

Do you find the level of work varies in different lessons?

Answer choices	Responses
Yes	90.27% (167)
No	9.73% (18)
Total responses	**185**

An overwhelming 90% of students indicated that the level of challenge varies in different lessons. Twenty four per cent of key stage 4 students highlighted English, 14% maths and 19% PE as lessons where they feel is the least challenge. A detailed breakdown follows and any subject where over 10% of students have highlighted there is little challenge is in bold.

Question 4

In which subject do you feel least challenged?

Subject	No of responses	Year 9	Year 10
Art	6 (4%)	6	
Business Studies	1 (0.6%)		1
Catering	1 (0.6%)	1	
Chemistry	1 (0.6%)		1
Child Development	1 (0.6%)		1
CiDA	1 (0.6%)		1
Citizenship	1 (0.6%)	1	
DIDA	1 (0.6%)		1
Drama	9 (5%)	9	
Electronics	1 (0.6%)		1
English	**33 (19.8%)**	**14 (15.95%)**	**19 (24.3%)**
Ethics in Society	**12 (7.2%)**		**9**
Food Technology	3 (1.8%)	3	3
Geography	7 (4.2%)	4	3
German	2 (1.2%)		2
Graphics	1 (0.6%)		1
History	8 (4.8%)	6	2
ICT	**12 (7.2%)**	**7**	**5**
Maths	**17 (10.2%)**	**6 (6.8%)**	**11 (14.01%)**
Music	3 (1.8%)	3	
PE	**34 (20.4%)**	**19 (21.59%)**	**15 (19.23%)**
Science	2 (1.2%)	2	
Sports Studies	2 (1.2%)		2
Technology	4 (2.4%)	4	
Wood Technology	2 (1.2%)	2	
Textiles	1 (0.6%)	1	
Total	**166**	**88**	**78**

Question 5

What would give you the right level of challenge?

Answer choices	Responses
Extra tests	6.83% (11)
Classes of the same level of students (sets)	90.06% (145)
Extra homework	3.73% (6)
Total responses	**161**

As with the first survey, 90% of the students surveyed indicated that they would prefer to be in sets and not mixed ability. This is not always possible due to staffing numbers and class sizes. Therefore it is important that staff differentiate work to ensure that all students make progress.

Any other useful comments:

- Less homework, far too much homework.
- Classes should be set on behaviour as well as levels.
- Classes should be settled then so that everyone is at the same level – linked once again to differentiation.
- Since I am a shy person it is very hard for me to ask questions when there are lots of people in the class. So I have nothing else to do but go home and ask my parents instead and when they don't know the answer I simply won't know the answer.
- Sometimes my technology class is really behind and we don't actually do much practical work. We just design most of the time.
- If you are in mixed classes you should give the right level of work to students of different abilities – linked again to differentiation.
- Some teachers aren't always good at teaching; they know the subject but they can't really teach it to some students (this was not directed at any particular teachers, just an example).
- I find that a lot of the subjects I like and enjoy are either not there, or we don't spend a lot of time on that subject.
- I think the lessons are difficult and challenging. However they remain at the level which I learn best at.
- Most subjects are challenging enough, however a couple of them are too easy. Sets would be a lot better.

- I quite like the class I am in, but in PE I feel that I could be pushed a bit harder with my skills.
- My class is OK, but I feel I can do better in ICT.
- I think that there should not be more than three sets in a subject, because at one point or another different people will have learnt different things, and will have to catch up. That might be a bit difficult.
- Be more resilient with adhering to homework deadlines. Don't just say, 'Bring it in tomorrow'.
- Better to have sets in English.
- I don't think I'm challenged enough because when they pick our groups I normally get put with people with a lower level than me so I have to work at their level.
- It is frustrating in some subjects when we are stopped to hear general learning points that not all of us need.
- The only lessons I really learn anything in is maths, RS and PE.
- The teachers give out ELTs at the same time and it's really hard to do it when I do other stuff out of school.

Conclusion

The study clearly indicates that a significant proportion of students completing the survey do not feel sufficiently challenged in certain lessons. In Survey 1, 71% of students indicated that the level of challenge was 'just right', and 82% of students said the same in Survey 2. The researchers feel that if students are saying the work is 'just right' they could actually be stretched further. If one takes this to an extreme, adding together the numbers of 'not challenged' and 'just right', this gives roughly 93% of students in Survey 1 and 95% of students in Survey 2 say that they are not being challenged. Although this is an extreme assumption, we believe that strategies need to be put in place to address this. English, maths and PE are the main subjects where students feel that they are not being challenged enough.

Taking things forward

The headteacher agreed to share these findings with leadership team members, governors and relevant heads of department. Strategies were agreed to ensure that departments acted upon the findings by providing greater differentiation and stretch. In addition, learning ambassadors agreed to continue to dig below the surface to find out how certain students, especially those who have suggested they are being challenged, are performing in relation to their targets.

Resulting actions

The results of the survey were taken to the leadership team and then on the school improvement group (heads of department group).

In the light of these discussions it was agreed that challenge should be a key theme in future lesson observations, learning walks and work scrutiny exercises.

The issue was also presented to the Governors School Improvement Committee with challenge being a key focus in the teaching and learning element of the school development plan.

Experienced students have further enhanced the role of learning ambassadors through an increase in numbers and the training of these new recruits.

Research report 3

Tavistock Community Primary School

A 3-11 primary school in Devon

STUDENT RESEARCHERS
Summer Matthews, Charlie Elkington (Y6)

TEACHER MENTOR
Caroline Smith

Overarching questions:

- How does my school think creatively about the future?
- How does it prepare me for the future and help me to influence that future?

Project investigation

Will the development of student voice in the delivery of the curriculum have a positive impact on the skills that students need to be successful in the future?

Stage 1

We talked with our class teacher and with the other children in our class about the overarching questions from the research project. At first we found it very difficult to think about how our school prepares us. Our teacher suggested that we would focus on the skills that we would need in the future because we do not know the knowledge that we will need and that is how we came up with the project investigation.

In our school we have a set of skills that is part of the curriculum. We call them 'skills for success'. They are skills that the teachers worked on and that they think will help us learn.

They are:

- resilience
- responsibility
- understanding yourself
- self-belief
- cooperation
- risk taking.

Each half-term we have a new skill which our headteacher talks to us about in assembly. We have posters of them in our classroom and our teachers explain what they are and how we can use them. They give us praise if they see us using them.

We decided that we would focus on these skills as we know we will need these in the future. We wanted to see if we could find a way to give these skills more attention and make them used more.

We talked about this with our teacher and she talked about how she thinks that we use these skills more when we have some choice about what we are learning. She told us that having more choice is one part of how teachers can encourage children to be more involved in school life and that this is called 'student voice'. She also told us about other sorts of student voice. We decided to look at freedom of choice, as that would be more straightforward to do. That is how we came up with our question:

'How will the development of student voice in the delivery of the curriculum have a positive impact on the skills that students need to be successful in the future?'

Stage 2

To start, we needed to find out if the children felt they were good at these skills. At first we planned to do this with all the children in our school, but because our school is so big and because all the other teachers have their own research, we had to change our minds and just do the project with our class. We hope that we will still need and be able to do the research with the rest of the children in the future.

We decided we would do a questionnaire with the children in our class to see how confident they were using the 'skills for success'. We thought it would be better to make it clearer by thinking about learning skills used in a curriculum area. We decided to choose literacy. We worked on the questionnaire (right), and then talked with our teacher to decide how we were going to have more choice.

We talked about how all our work is planned in sequences and how our literacy sequence always ends in a key outcome that she usually decides. She said that we could do the sequence like normal but then choose how we do the key outcome. We talked about it together and decided to do this:

Name: ..... Age: ..... Date: .....

Research for skills for success

Explanation

In class 13, we are carrying out some research into how our school (particularly class 13) prepares children for the future. We are focusing on skills for success and how good you are at each of the skills because we believe that these will be important in the future.

Introduction

Please circle your opinion on how good you think you are at the following skills.

Cooperation

Excellent	Very good	Good	Quite bad	Very bad
1	2	3	4	5

Understanding yourself

Excellent	Very good	Good	Quite bad	Very bad
1	2	3	4	5

Risk taking

Excellent	Very good	Good	Quite bad	Very bad
1	2	3	4	5

Self-belief

Excellent	Very good	Good	Quite bad	Very bad
1	2	3	4	5

Responsibility

Excellent	Very good	Good	Quite bad	Very bad
1	2	3	4	5

Resilience

Excellent	Very good	Good	Quite bad	Very bad
1	2	3	4	5

Thank you for taking part in this questionnaire.

Stage 3

We talked to the children in our class about the project and explained the questions. We went through all of the learning skills to remind the children of what they are and what it looks like if you are using that skill. We also talked to the children about how important it is to be honest about filling out the questionnaire. After that, we gave them the questionnaire. The results are in the bar graphs on pages 24-25 coloured blue.

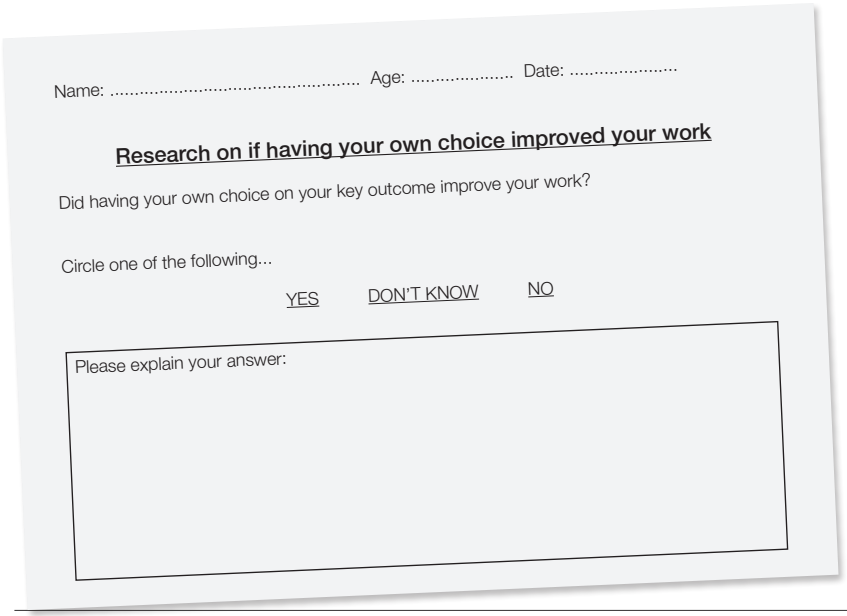
Stage 4

We did our literacy sequence like normal. It was about the non-fiction book *A Drove of Bullocks* by Patrick George. It is a book about collective nouns. The key outcome would normally have been to make your own book of collective nouns. Our teacher explained that we could produce any sort of key outcome. The children did lots of different kinds of work. Some children did posters, some did PowerPoints, some did mobiles, some did leaflets and some did books.

Stage 5

When the children had finished their key outcome we gave them the questionnaire again and asked them to think about the key skills they used when doing their key outcome. We told them to fill out the questionnaire again and the results are in the bar graphs coloured pink.

Our teacher wanted us to do another questionnaire about enjoyment (below). A pie chart to show the results of this questionnaire is also included on page 25.



Name: ..... Age: ..... Date: .....

Research on if having your own choice improved your work

Did having your own choice on your key outcome improve your work?

Circle one of the following...

YES DON'T KNOW NO

Please explain your answer:

Stage 6

We analysed the results between the two questionnaires. We found out that all children thought that they had become better at using the key skills when they had free choice.

These are the results in detail:

- For the learning skill RESPONSIBILITY, there was a 5% increase in the number of children grading themselves as excellent.
- For the learning skill RESPONSIBILITY, there was a 28% increase in the number of children grading themselves as very good.
- For the learning skill RESILIENCE there was a 26% increase in the number of children grading themselves as good.
- For the learning skill RESILIENCE, there was a 36% decrease in the number of children grading themselves as very bad or quite bad.
- For the learning skill SELF-BELIEF there was a 25% increase in the number of children grading themselves as excellent.
- For the learning skill SELF-BELIEF, there was a 22% decrease in the number of children grading themselves as very bad or quite bad.
- For the learning skill COOPERATION there was a 23% increase in the number of children grading themselves as good.
- For the learning skill RISK TAKING, there was a 73% increase in the number of children grading themselves as excellent, very good or good.
- For the learning skill UNDERSTANDING YOURSELF, there was a 41% increase in the number of children grading themselves as excellent or very good.
- For the learning skill UNDERSTANDING YOURSELF, there was a 39% decrease in the number of children grading themselves as quite bad or bad.

Conclusion

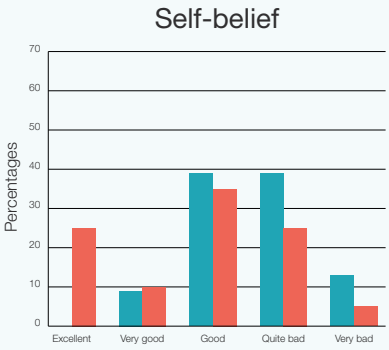
The results from our surveys show that having some free choice makes children increase the use of the skills they need for the future. Our teacher is going to talk to the other teachers in our school about this. We also think that teachers should be very interested in the enjoyment questionnaire results.

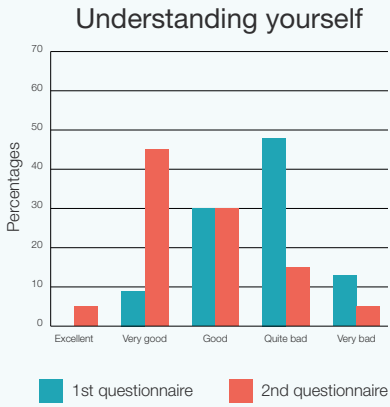
Taking things forward

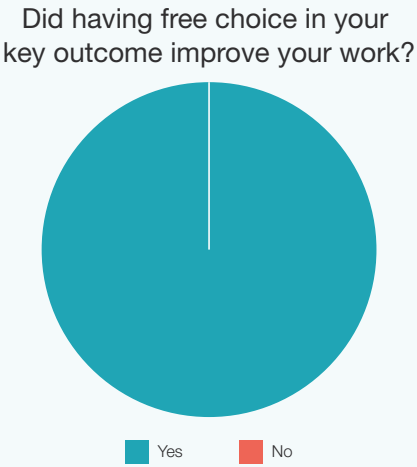
Caroline Smith, the teacher who supported the students in their research, concludes:

'As a result of this research, I am hoping to develop the idea of providing freedom of choice in teaching sequences, initially in literacy. I am going to deliver the findings of the research to our whole school team, focusing on both the positive effects on our skills for success and the children's engagement levels. As a staff, we strongly believe that it is the development of children's skills for success that really lead to achievement and progress, and I am hoping that the research findings will offer an additional way of developing these.'

Data results


Self-belief
Percentages
70
60
50
40
30
20
10
0
Excellent
Very good
Good
Quite bad
Very bad


Understanding yourself
Percentages
70
60
50
40
30
20
10
0
Excellent
Very good
Good
Quite bad
Very bad
1st questionnaire
2nd questionnaire


Did having free choice in your key outcome improve your work?
Yes
No

Research report 4

Thomas Deacon Academy

The Thomas Deacon Academy (TDA) provides an education for over 2000 primary, secondary and sixth form students in Peterborough

PROJECT LEADS
Omotayo Alli (Y8), Wiktoria Mirga (Y9)

STAFF FACILITATOR
Richard Markey

Introduction

As part of its improvement agenda the academy has recently invested significantly into its IT infrastructure to ensure that the latest technologies are available to provide the best possible end user experience.

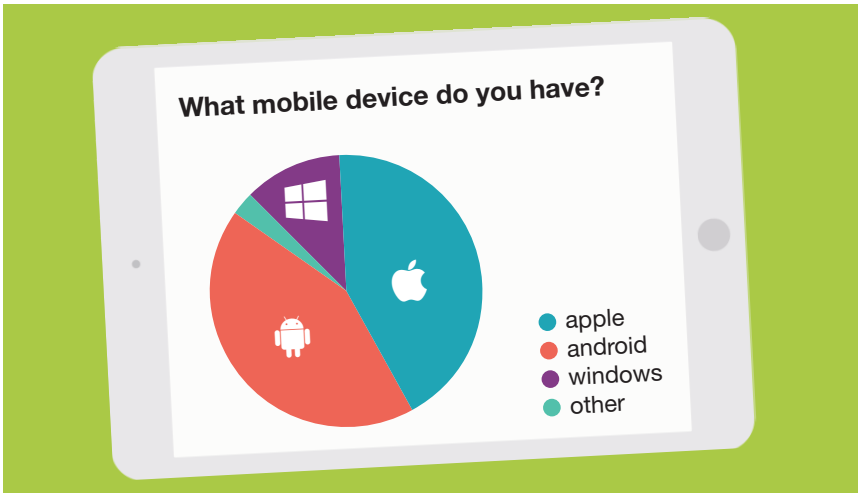
As funding continues to reduce within the education sector the academy needs to look at creative methods of ensuring that it continues to deliver contemporary IT solutions that are cost effective and sustainable.

Bring your own device (BYOD) initiatives are becoming more popular within education as schools seek to harness the mobile devices that are already owned and accessible to their learners.

The purpose of this research is to outline considerations and strategies to implement a BYOD initiative at the Thomas Deacon Academy. The information within this document has been provided by a team of TDA students and comprises key stakeholder research into technology, pedagogy, barriers to success, and possible solutions to ensure a smooth transition and implementation.

Technology

In order to identify the technology that students own and would potentially bring in to school the student research group completed a range of research activities. Initial research indicates that a majority of end users own either Apple or Android devices.



In total, 94% of the students that participated in the survey would like to be able to bring and use their mobile device to support their learning, with 84% stating that they felt it would support and further their progress as detailed below:

- 'You can quickly research things'.
- 'You do not have to book computer rooms'.
- 'My device is personal to me and supports how I work'.

Overall there was a positive response from students and a link between the technology available and how it could support their progress.

However the student research team quickly identified that this project was not going to be simple and thorough planning would be needed in order for the BYOD scheme to work. The research team identified an implementation process, potential barriers to the project's success and proposed strategies to mitigate negative impact:

- communication
- current systems review
- compatibility
- teaching and learning
- security
- misuse.

Communication

In order for the project to be successful it was agreed by the research team that all of the key people involved would need to take part in the project and effective communication would be very important.

Parents would be informed about the scheme by a series of emails, publications and information evenings that would help to ensure that they were well informed of all of the details. Feedback from initial research identified that some parents were concerned about the security and ownership of their child's device.

As a result the research team identified that an agreement would need to be in place that clearly identified roles, responsibilities and ownership of the devices used by students.

Teachers and students would be informed of the scheme by email, posters and assemblies. Information included, such as the benefits and boundaries, would need to be clear in order for everyone to be well informed.

Current systems review

As part of the research members of the team were provided with a mobile device and used them within their lessons. Each student completed a journal of what went well and any issues that they encountered. This information was shared with the leader of data and systems so that the IT services team could improve their systems.

Some of the issues encountered were:

- 'No wireless in science'.
- 'Not enough digital resources from teachers'.
- 'Battery runs out'.
- 'Internet was slow'.

In response to the above issues raised the IT services team have now put a strategy and systems in place to provide the academy with full wireless coverage, the ability to charge from existing computers, a faster internet connection and a new virtual learning environment.

Compatibility

With a range of devices available to students it is important that the academy can provide a central software solution that can provide access to resources regardless of their manufacturer. In response the research team proposed a new system that would act as a dashboard and a simple central method of accessing student home areas and other applications that would not normally run on Apple or Android devices. For example, students can access applications such as technology software only designed for Microsoft Windows on an Apple iPad.

Security

Two items were raised in terms of security. Theft was an ongoing concern within the research team and although this risk cannot be completely removed systems could be put in place to help mitigate such an issue. Student would be informed via a series of assemblies and tutor time reminding them to be responsible for their devices. The academy also provides security systems such as swipe card access and CCTV to help deter such incidents.

Virus/hacking is already addressed by the academy IT services department and the dashboard system would also act as a gateway that would block such attacks from a mobile device.

Misuse

The research team wanted to promote the use of mobile devices in the classroom but raised a need for an agreed policy to be in place that reminded students of how to treat the system. The research team produced a logo that would be displayed in key areas of the academy for students to adhere to. Those that abused the system would be subject to a range of sanctions based on the type of misuse.

The TDA values for the BYOD scheme are as follows:

BE MINDFUL OF OTHERS
BE CAREFUL WHERE **Y**OUR FOOTPRINT LIES
N**O** SNAPS, CHATS AND UNWANTED APPS
YOUR **D**EVICE, YOUR RESPONSIBILITY

Teaching and learning

Wiktoria (a member of the research team) identified a training need for teaching staff if the BYOD scheme was going to be a success. If staff do not feel confident with the technology, then this could stifle the use of mobile devices within the classroom.

As a result, the research team looked to develop a team of students that would act as support for minor IT issues within the classroom. The research team planned to expand the student IT support team as the BYOD scheme developed. A range of professional development opportunities for TDA staff have been introduced, including:

- virtual learning environment seminars
- online resources.

Taking things forward

The research team identified that this was only just the beginning of TDA's journey towards an effective BYOD scheme.

Since the project's initiation the research team has grown and members of the team have been trialling a range of mobile devices within the classroom. An important barrier to overcome was the difference between operating systems and how they could possibly integrate with the academy systems.

It was agreed that access to resources including emails, shared drives, applications and home areas would be invaluable to all end users. As a result the academy introduced a solution called the dashboard. This system would provide quick and simple access to a menu of hosted applications and files. The dashboard can even run applications that are not available on the Android and Apple stores due to the technology in place at TDA.

The research project will continue as we look to finalise our BYOD policy in terms of user acceptance, disclaimers and how we can support teachers with embedding the use of mobile devices across our curriculum.

Research report 5

RSA Academy, Tipton

An 11-19 academy sponsored by the RSA in Sandwell

PROJECT LEADS
Neve Ovenden (Y10), Laura Guest (Y12)

STAFF FACILITATOR
Mat Carpenter

The purpose of this research report is to ask 'Is the RSA Academy sufficiently preparing students for the possibility of a 'techno-future'?'

The topic was chosen in key with the forever-evolving technology-dependent environment in which the current school generation is maturing. This research report aims to evaluate how adeptly students at the RSA Academy understand the prospective impact of technology's many potentialities upon their own lives and futures and will discuss how the academy is ensuring this. Forty students from key stages 3, 4 and 5 received a questionnaire and 10 students from each key stage participated in a focus group. Information from these forms of data collection was compiled to form the following findings.

Technology is used most frequently in subjects surrounding maths, science, and technology (MST). The highest proportion, albeit only 7% of students, said that they used technology most often in information technology, a likely and predictable finding. The second subject said to most frequently involve the use of technology is maths. Six per cent of the students who took part in the questionnaire named this subject as the most technological. Subjects such as languages, arts, and sport were said to be the very least frequent in using technology within lessons, with no students selecting them.

Moreover, the most popular piece of technology amongst students at the RSA Academy is the mobile phone. Eighty eight per cent of students selected the device as a piece of technology that they use every day. Key stage 3 students discussed the varying uses for mobile phones in lessons when asked if they believed the RSA Academy was preparing them for the possibility of a 'techno-

future'. The issue of whether phones should be allowed in lessons and the justification of the teacher for confiscating a device was raised when one student said, 'You could be revising and the teacher could take it the wrong way', as an argument for the school failing to prepare students correctly. One student commented, 'The school provides us with computers for revision… so phones don't really need to be used.'

Furthermore, the internet is an integral part of the functions of the student body of the RSA Academy. Seven out of 13 reasons given for 'Why do you feel technology aids your learning' were related to 'internet access' and 'research'. Education and the 'world of work' are heavily dependent upon the use of laptops and the World Wide Web. One sixth form student demonstrated this when they remarked, 'Now you need laptops to do your work so if you didn't have any laptops, you wouldn't be able to get any work done in sixth form', posing the question about the degree of dependency on the internet in the future.

In addition, students at the RSA Academy look upon the prospects of a 'techno-future' as 'daunting'. The information gained from students at each individual key stage in the focus groups suggests one common notion about the technological impact upon their lives in the future, from key stage 3's more youthful comment about the perils of 'Just an annoying voice all day, the robot's voice', to the rather more developed notion displayed by one key stage 5 student that 'You just don't know what (technology) is capable of'. Evidently, students at the academy have a well-balanced understanding of the implications of living in a technologically-advanced society.

Eighty nine per cent of students who received the questionnaire considered themselves as 'up to date with technology'. One key stage 3 student commented on technology in relation to professional careers: 'If (the RSA Academy) didn't have the technology that they have, we wouldn't know what to do if we went into a job in that field of work.' The academy is clearly gearing students up to perform successfully in future positions by allowing students access, in specialist cases, to specialist equipment. However, when students were asked via a questionnaire to select the technologies they use in an average lesson, 'smartboard', 'laptop', and 'mobile phone' were all chosen, but the option for 'other' was neglected. This suggests that – although accessed frequently – only a small number of technologies are sampled by the average student in an average lesson.

A range of technologies should be sampled in lessons in order to give all students a better understanding of varying and aiding pieces of technology. Also, teachers should be sure to provide students a means by which to research – or access the internet – to prevent the misuse of mobile phones where and when it is not appropriate in lessons. Finally, the academy should strive to encourage the use of technology in a range of subjects, not just those that qualify as 'MST'.

To conclude, students at the RSA Academy are, in all key stages, aware of the possible positive and negative impact of technology upon their futures, both professionally and privately.

Taking things forward

Mat Carpenter, Director of School at the RSA Academy, facilitated the project and concludes:

'The student-led research project has provided a natural evolution of the research culture we are establishing at the RSA Academy. For the students involved in the project the skills developed extended well beyond the data collation, analysis and evaluation. Aligning with our Opening Minds Competences the students developed time management skills in developing deadlines, leadership of their team and others including teachers and support staff, and in reflection the metacognition that accompanied the project. We will continue to use student-led research as a bridge between student voice and teacher-led research and to provide stretch and challenge to our learners.'

Research report 6

Lakers School

An 11-16 cooperative trust school in the Forest of Dean

PROJECT LEADS
Abby Shepherd and Rachel Harvey (Y10)

STAFF FACILITATOR
John Barnard, Deputy Headteacher

Introduction

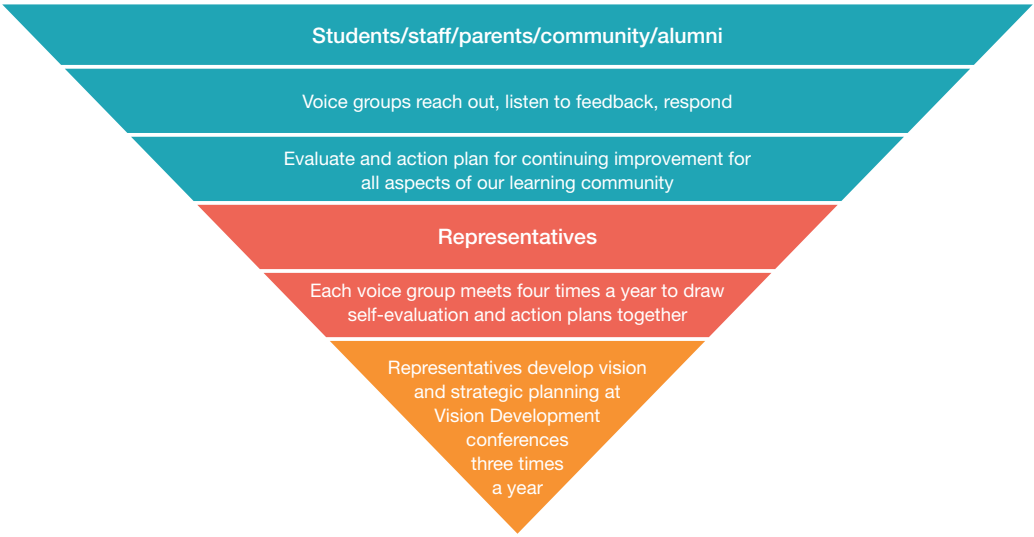
Our student voice group was keen to use the Schools of Tomorrow conference opportunity to further our student voice group work. This report is about how we have worked together, across our voice groups, to build a team around each learner. That team includes fellow students who help build mutual confidence to draw together our learning community. Mutual support is at the heart of this work. We want to get to the point where families, learning together, are actively engaged and participate in planning for our future.

With this in mind, our school has set up a cooperative system of voice groups as illustrated in the diagram opposite.

Focusing on need

The student voice group has linked its ideas to topics that will have an impact on all our futures because, when we carry out our plans, a better learning environment will be created for generations to come.

The relocation of an under-fives facility on our school site has led us to consider how to integrate very young children into believing they can make a difference. Some work placements with the under-fives have helped older students understand how early years learning works. While we accept that the under-fives are too young to take an active part in our student voice groups, we believe that, through asking them questions and helping them to make decisions, we can start them on the way towards shaping their own futures.



The aspects of school our group decided we would like to improve were:

- the well-being/welfare of students
- the learning environments and experiences
- social aspects of school life
- physical activities.

We used the skills that we have consolidated from the Schools of Tomorrow workshop to help us to gather our ideas to improve many aspects of school life. Welfare and well-being were at the heart of what we set out to do.

- The girls' toilets – because many of our fellow students have given feedback that they want to see vast improvements in them. The boys designed and led a 'make-over' for their toilets a few years ago. We believe that the quality of the toilets symbolises the level of respect that we show for each other at school. The improvements that we would like to see in the toilets are: all locks on cubicles to work all of the time, a fresh coat of paint on the walls and the ceiling, more working hand dryers and finally some smart mirrors. Also we wanted staff to carry out more regular toilet checks to make sure that no one is misusing the facilities provided.
- In dry weather, when the field is open, we wanted bins provided. The aim here was to improve the learning environment for PE as there will be no litter left on the field and also it would make a cleaner environment for our fellow students.
- We think that we should get more chances to complete mock exam papers for both SATs and GCSEs. We think this because it will give you a chance

to adapt to the layout of exam papers. This will make taking your exams easier because we will approach exams with more confidence and they will no longer feel like an 'alien' process.

- We also think that we should get a chance to do some work experience as it will prepare us for working life. This will benefit us because it will help us to understand what life could be like after our education.
- We need more careers lessons because these prepare us for making choices about our futures.
- We would like to see more benches around the school site because many people sit on the floor. This is not very good as it isn't very comfortable and it is difficult to eat properly when you sit on the floor.
- We also feel that we have got spaces around school that are not being used efficiently. For example, we have got a pleasure garden that is not available for our use. We have spoken to teachers and students about the idea of it being opened up to us at break times and lunchtimes and they have welcomed the idea. We hope to see the pleasure garden opened in the near future.
- We would like to have a wider range of sport for all in PE lessons and extra-curricular activities. We think this because it would keep us fit and at the same time keep PE interesting so that it can appeal to everyone. We would also like to see a wider range of warm-up activities as doing the same warm-up becomes repetitive and boring.

How did we check that this was what we should be doing?

We gathered our evidence from people by conducting questionnaires around school. We drafted initial ideas and circulated them to everyone. Using both open and closed questions we were able to gather the best evidence we could on how to improve the school. From the evidence that we have gathered we have worked, in school on day-to-day activities, and through 'super Saturday' visioning days, with the other voice groups, to create a better environment to prepare students for the future.

Looking back

When we stopped to reflect, we could see that our school culture encourages students to make a difference. Students are engaged in proposing improvements all the time, and making those improvements happen. We have mentioned the boys' toilet design and decoration. The student voice group has been engaged for years in the basics of staff recruitment and proposing changes to uniform. We have done more significant things: proposing termly learning themes; deciding on and fundraising for improvements to the environment and variety of foods in the school canteen; carrying out on-task surveys in the school canteen; proposing

and planning whole school activities week; setting up recycling facilities; and influencing the purchase of iPads and the iMac suite in music. We take for granted that we can propose and make sure our many charity activities happen, e.g. Christmas card collections for the Cobalt Unit, Bags to School, our 'Stand up to Ebola' awareness-raising rally, Water Aid, the road safety 'Walking Bus' (and that included the under-fives, parents and the primary school), our annual whole school sponsored walk, our Kenya fundraising for our sister school 'Gilwatsi' and our annual exchange visits, and, like the Ebola response, offering rapid response to national appeals such as our Tsunami appeal.

Taking things forward

Preparing this report has helped us to realise just how much we do and how vibrant and responsive our learning community really is. We are very pleased to conclude that we have been able to make a big difference through listening to each other, focusing on, and achieving, what we set out to do. Through this report we are hoping to share our enthusiasm, help inspire others to realise they can use and grow their skills and adapt what they have for a better future.

From the work we have done together, across our learner voice groups and through our cooperative 'super Saturday' workshops, some principles have emerged:

- we are all entitled to a high-quality learning experience that focuses on our well-being and meets our individual learning needs
- we need to focus on the things that are most significant in enhancing our life chances in our context
- it is through our relationships in school and beyond that we build our own confidence to improve our lives and become catalysts for positive change and better learning outcomes
- it is really important that we draw everyone together, across all voice groups, to pull in the same direction, build our unique learning community and transform our learning culture.

We believe that, if we use these principles to help us focus our work into the future, we will be able, together, to make a real difference to our learning environment and to all our life chances across our extended learning community.

Reflection

Chris Smith

Impact in schools

One of the great benefits of operating student-led research groups is that it can provide schools with evidence of areas for development. The unique viewpoints of students can often shed light on areas that staff had not previously considered as being problematic, or indeed provide new perspectives on problems that were proving tricky to solve. For example, Julie Turner from The Hollins Technology College found that the project allowed the school to obtain 'student voice on teaching and learning which was previously a bit of a sensitive area.'[4] Such insight can be invaluable for schools.

Students as researchers can go beyond simply pointing out issues or concerns but can also provide suggestions and inspiration as to how to resolve these issues. At The Hollins, for example, the student voice on teaching and learning was used to give feedback to a head of department as to how they might move their department forward. This is particularly effective when projects are clear in their aims with specific goals for students to focus on. Sometimes, of course, the outcomes might not be sought directly but may emerge from the project. At Tavistock Primary School, Caroline Smith noted that the 'project gave [her] and [her] class the opportunity to be more creative and that was very refreshing.'[5] The space for reflection and creativity that a research project can provide is often invaluable in itself.

Indeed, students as researchers can often form part of a larger project whether this is entirely student-led or not. Thomas Deacon Academy, for example, used a student research group to assess the viability of a 'bring your own device' policy in the school. The students' findings helped to inform the action plan for the proposed scheme which they are helping to take forward. Such models present students with a high level of ownership, providing schools with extra resource and also potentially improving the likelihood of student body buy-in when implementing

new policies. If students are involved in the development of these it is likely they are better received.

Clearly, as all of the reports here demonstrate, students as researchers are most effective when they are engaged in meaningful projects which have clear outcomes and feed into the school's own cycle of self-evaluation and improvement.

Impact for students

One of the greatest benefits for students is that it enables them to develop a range of transferable skills in a context outside of the normal school lesson. Some of these may be developed through specific training, but the experience of working on a specific project and the relevant coordination that requires also gives students the opportunities to develop their skillsets. Such skills are of great value to students and working on such projects will provide them with vital experience that so many students in today's schools are not able to access.

As well as the development of a range of team working and project planning skills, as with other student impact activities, student research projects can increase the degree of ownership students feel over their school. Instead of being a place that they are bound to turn up to each day, it becomes a place that they feel they have a say in and a chance to influence. Importantly though, it teaches them that to have an impact ideas need to be researched and evidenced. It is not simply a case of saying they want something changed; it requires exploring a problem in depth and using the evidence they find to inform and justify their solutions.

All of the feedback that was received throughout the course of this project has been positive when it comes to the influence on students. The Hollins noted that 'a parent of one of our students said that it is the best thing her child had done' and at Tavistock Primary they are going to 'repeat the project across the curriculum because the children responded so positively'.[6] Such comments are in-line with the experiences I have had working with other groups of students and are indicative of the positive outcomes that can arise from student research projects.

Conclusion

Running meaningful student-led research projects has a number of benefits for both the school and the students. Such projects, along with other forms of student impact, provide one avenue both to help schools prepare for tomorrow but also to allow students to develop the skills that they will need in an uncertain future.

References

[4] J. Turner, ***Personal communication***, (2015).

[5] C. Smith, ***Personal communication***, (2015).

[6] J. Turner, ***Personal communication***, (2015) & C. Smith, ***Personal communication***, (2015).

Putting the project into wider perspective

Andrew Hobbs

Introduction

The term chosen for this project – Learning Futures – is deliberately ambiguous. It asks questions about the future, about learning, about each of us as learners. It suggests we cannot be prepared for the future if we are not learning. It hints that the future is also present today, as we begin living in the future in each moment of the here and now.

This Learning Futures project was focused at the outset on two overarching questions that learners were asked to address:

- How does my school think creatively about the future?
- How does it prepare me for the future and help me to influence that future?

Embedded within these questions are concerns about how we prepare ourselves, as well as other learners for whom we have a responsibility, to be happier, more satisfied and more successful in the future by increasing understanding and awareness of how we live and what we do day-by-day. The intended emphasis is unashamedly upon learning, in its widest sense, and upon everyone being effective 21st century learners. A growing body of evidence consistently demonstrates that having a range of adaptive learning skills and the mindset to apply them is fundamental to a purposeful life in the rapidly changing globalised world of today.

Why does preparation for the future matter?

In this rapidly changing world of today, change is both a constancy, and is accelerating, which is why it is important to recognise that the future is with us now. It is also essential that we have a deeper understanding of the different aspects of change and the impact these have on our lives. These understandings will require refreshing continually to inform our responses.

While there are many uncertainties about what it will be like to live in the future, there are global trends which will impact on the lives of everyone. The world population is ageing, which has implications for intergenerational relationships, the distribution of resources and social and economic productivity. Energy, water and mineral resources are becoming scarcer and increasingly valuable, increasing the likelihood of conflict in some regions. Climate warming continues, primarily from the use of fossil fuels, with vulnerable areas becoming less habitable and extreme weather events more frequent. The global population continues to increase. Increasing proportions of that population live in diverse, urban areas. Socio-economic inequalities are increasing globally.

These trends are global, but have increasing local significance. Globalisation means that it is easier for more people to travel further, more frequently, and to make use of rich audio-visual communication with people in almost every part of the world from handheld devices, without delay and at very little cost. Socio-technically our horizons have expanded in ways that can appear limitless, but many people continue to live in localities, with constrained lives and very limited experiences. This can distort the sense of reality for individuals and in some social groups.

Globalisation has also resulted in the power and influence of national governments diminishing, and regional differences are growing in significance, as wealth and power is concentrated in the hands of new global elites and global corporations. In a world where the global and the local have more significance for individuals and communities, national influences can be seen to be diminishing and fragmenting.

How people define and form their identity in a complex world is also changing. For the greater majority, identity is no longer prescribed, but is formed and reformed throughout life from the interactions of a range of complex factors and influences. The term 'hybrid identity' recognises how we each create our own identities and change throughout life. For young people, this is a challenging and uncertain process, during which the 'offer' of being given an identity and set of beliefs can appear very seductive (whether this is a religious dogma, an extremist ideology or a street gang.)

The interaction between localities and global factors also raises the question of what our locality gives us in the way of identity with a particular sense of heritage and character. These can be important in giving a sense of community, of belonging and pride, which are essential elements for social cohesion. An over-emphasis on the individual can result in localities that are in themselves characterless, anonymous and isolating.

There are two wider questions that affect people globally. Firstly, existing democratic structures are under strain as the dominant political ideologies of the

past 100 plus years are no longer considered adequate and national governments seem powerless when faced by the economic interests of the financial markets. Secondly, the protection of the privacy of individuals both in terms of governments' access to personal data, and by companies that collect and exploit knowledge of our interests and purchases to market and promote products.

These global trends, impacting on our lives now, have implications for our learning futures. Professor Keri Facer, in her book *Learning Futures*, identifies a number of reasons why local schools could be important in response to global trends. Examples of the main ones include:

1. The need to create accessible spaces where we can work out how to cope with the disruptions to intergenerational relationships that are promised by ageing populations, environmental degradation and rapidly changing socio-technical practices.
2. The need for a curriculum and pedagogy that teaches us how to live with our collective, multi-modal and sometimes dangerous knowledge resources.
3. Given the expectation that current trends will produce economic and social futures of profound inequality and environmental degradation, we need to create schools that are capable of challenging this trajectory and to give support to communities and students to come together to imagine and build sustainable futures for all.
4. The need to act as a powerful democratic resource and public space that allows its students and communities to contest the visions of the future that are being presented – to work together through the spaces of traditional and emergent democratic practice to fight for viable futures for all.
5. A future-building school determined to act as a powerful prefigurative space for fair socio-technical futures. It would act as a public space for a community's conversation about the future.

This is a radical agenda that envisages schools as places of dialogue and learning that are within local communities while interacting globally. It also conceptualises learning as an active process that engages all learners.

At the SoTo Learning Futures event in June 2014, which launched this project, Keri Facer led a practical workshop that used a thinking tool and a set of resources she had devised with colleagues, 'to encourage educators and students of all ages and across all sectors to challenge assumptions about the future and to develop both the knowledge and the agency to allow them to begin to imagine and design better futures.' The tool uses a matrix that questions the assumptions we have in two key areas:

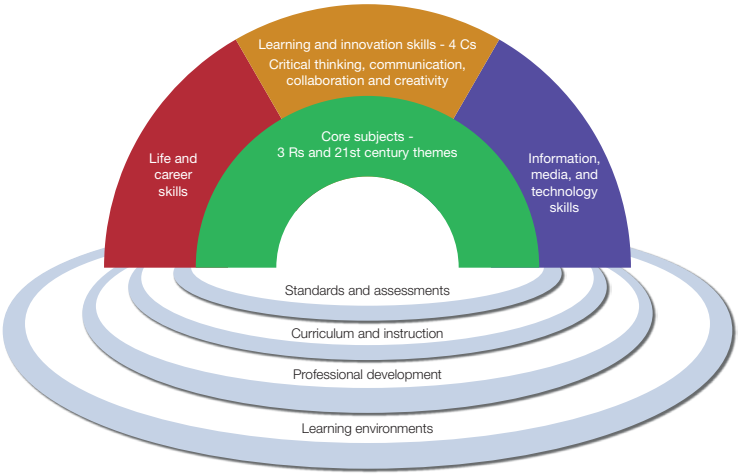
- assumptions about how much knowledge we have about the future and what it will be like
- assumptions about how much agency we can exercise in respect of the future to influence and control what happens in our own lives and institutionally.

The identification of *agency* as a key aspect of learning futures is an essential element of our understanding and our preparation for being happy, effective and fulfilled. In other words, having knowledge and understanding of the future is of little use if we are not equipped to take action to structure it collaboratively to provide communities that are fair, equitable and offering a safe and rewarding life to all.

How to live successfully in the future today?

Other research has focused on the qualities, skills and personal characteristics to be developed in children and young people to prepare them for the future. The perspective taken by research in this area varies, although it is possible to identify considerable overlap of what is seen as being important for schools to incorporate into their curriculum and pedagogy.

21st century student outcomes and support systems



Trilling and Fadel summarise their core ideas in the '21st century knowledge- and skills-rainbow', which groups the required skills for development above a central arc of the 'core subjects and 21st century themes'. The three skills areas

are Life and career skills; Learning and innovation skills; and Information, media, and technology skills. Each of these is broken down into subsets of the skills to be acquired by students and what they should be able to do. They argue that acquiring a *skill* has to be translated into *expertise*, where '*experts*' are able to '*continually expand, organise and deepen their expertise and to help apply their knowledge and skills to new and more complex challenges.*' They conclude by offering a holistic framework for 'Future 21st Century Learning'.

Guy Claxton considers what is required to expand young people's *capacity to learn*. He argues that capacity to learn should be interpreted as comprising of '*a varied set of learning dispositions*' and that expansion of capacity comes from '*broadening, strengthening and deepening these dispositions*'. He quotes a 14 year-old from Cardiff called Kyle, who, when asked why he goes to school, replied:

> 'To develop my learning power, of course! They give us interesting things to explore that get harder and harder. In finding out how to grapple with them, we develop the "learning muscles" and learning stamina that will enable us to get better at whatever we want, for the rest of our lives.'

Claxton concludes that what young people need is character, courage and confidence 'to face whatever life throws at them'. The challenge for schools and educationalists is how to move away from a knowledge-based curriculum in which teachers are seen as experts who impart knowledge and award certificates, to a learning environment that encourages and supports everyone to become 'a brave and skilled explorer; a cunning detective; an imaginative creator; a tough competitor – in whatever field of life they want to work and play in'.

Another way of interpreting this is through the concept of *mindsets* developed by Carol Dweck, who argues that '*intelligence, personality and character*' are just '*starting points for development*'. With a growth mindset, people can change and grow through 'application and experience'. She suggests that, too often, schools and education systems classify children, causing anxiety and inhibiting ambition rather than giving learners the basics for developing and progressing throughout life.

The concept of mindset has also been applied to other areas and aspects of the way that we think and approach our life and work. For example, in writing for SoTo in the third Beauchamp Paper, Lynn Davies argues that change should be approached with a '*complexity mindset*', while John West-Burnham proposes that we require a new mindset for the leadership of a school of tomorrow.

Bernie Trilling quotes research into the effectiveness of different learning strategies in delivering deeper learning. Performance is considered in relation to '*seven key mindsets*', which are grouped under three types of character qualities or student agency factors:

Personal character qualities

- Growth mindset: 'I can learn'.
- Self-efficacy and confidence: 'I can do this'.
- Purpose and relevance: 'This is important to me'.

Performance character qualities

- Goal setting and managing: 'I can reach my goals'.
- Refection and metacognition: 'I know myself and what I need to do'.

Social character qualities

- Social belonging: 'I belong here'.
- Social capital: 'I can get the help I need'.

Three learning strategies were found to achieve all seven of these student agency factors:

- project-based learning
- advisory programmes
- community partnerships and presentations of work.

What these three learning strategies have in common is that the students take increasing ownership of their learning goals, working in teams to create learning products, which they then present (proudly) to a wider audience. They share in the 'twists and turns' of learning and explore ideas with the frustrations and excitements that brings. When schools reach out to families and wider communities, selecting learning projects that have local and global relevance, the environment of learning is expanded and new partnerships are formed, helping to stimulate wider learning.

The evidence from research is that effective schools of tomorrow regard everyone as a learner, creating the environments, expectation and supportive facilitation for everyone to learn independently and collaboratively with others. When schools create carefully planned opportunities, learners are able to contribute to understanding of how schools and others can best help them learn and shape their future. Learner-led research is one way to enable this contribution.

How is learning changing?

The development of communication technology is also changing how we learn. Information is immediately available, placing a reduced emphasis on the acquisition of knowledge and making the development of research and data sorting and analysis skills at an early age very important. Learners are becoming

increasingly independent as tuition from a wide variety of audio-visual sources is accessible for no cost. Research by SoTo (Beauchamp Paper 3) indicates that some young people are becoming independent learners who actively and creatively 'personalise' their own learning at an early age, seeking out wider networks to share interests and exchange ideas and views.

This is not to say (as some have suggested) that teachers will no longer be needed in the future, but emphasises that the role of teachers needs to change and adapt to these new ways of working and to develop the required mindsets, qualities and characteristics for learning in and for the future. What is required is a shift from *teacher-directed* learning to *learner-centred* learning. For many experienced, excellent teachers, this will require unlearning many well-honed practices and techniques and the development of new knowledge, skills and approaches. There will also be an increased importance for other learning support roles, such as counsellors and mentors and learning resource professionals.

From engagement to agency

It is almost self-evident that we learn better when we are involved in what we are doing and know from experience that this increases our enjoyment and sense of well-being. However, it is also important to recognise that there are degrees of involvement and participation and that these affect how far we are genuinely engaged in what we are doing.

The 'Ladder of Participation', originally outlined by Roger Hart in the early 1990s, has been widely used and adapted by teachers and others, particularly in relation to the development of student voice approaches. The '8 rungs' imply a sequential progression of stages that increasingly involve young people, with Rung 1 being young people being 'manipulated', to 'young people and adults sharing decision-making' at Rung 8.

Hart himself has criticised the way that the 'Ladder' has been used and interpreted by others. He concludes that 'the important distinction in (his) mind is how the children think of themselves and the adults.' So, at 'the top of the ladder' children 'should not be 'children in charge' but children as citizens who think of themselves as members of a larger community that includes adults and other children who they may sometimes invite to join them'. For Hart, the engagement with others is a key distinction that recognises the difference between *collectivist* cultures and those that emphasise individuals.

From a different perspective, the Leuven scales of well-being and involvement use systematic observations of children (and adults) to assess levels of well-being and involvement. When used rigorously, teachers have found that children who are achieving at or above prescribed national levels for attainment are not fully

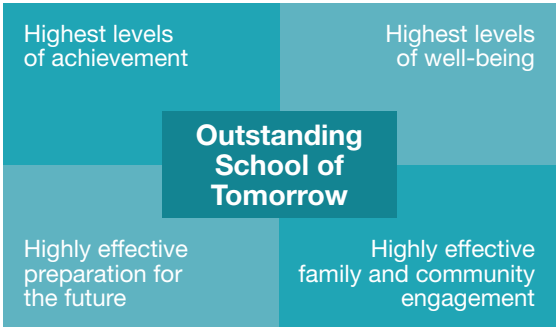
developing their potential because their involvement and well-being is assessed from observations to be poor. In other words, when children and young people do what is required of them and are assessed as achieving the required standard, this may not be enough for them to be developing their potential and to become effective learners as their low levels of well-being inhibit their full involvement and engagement.

In developing learners of and for the future, we need to ensure that students are not just involved and engaged, but also able to exercise *agency*. The exercise of agency, in any context, is challenging to existing authority. It offers different opinions, asks questions and suggests different solutions. The exercise of agency inevitably means that people are no longer willing to be compliant, not because they wish to disagree and oppose, but in order to work together to learn, to be creative, to share in the excitement of exploration and to find better ways.

The SoTo Framework

The more specific questions the student researchers in the project schools selected to investigate can be seen as growing out of the key ideas that have been identified as fundamental ingredients of a school of tomorrow in previous SoTo publications. Highly effective preparation for the future is one of the four dimensions of the Schools of Tomorrow model of the high achieving school.

The SoTo Framework emphasises four different aspects of learning and their inter-relationships. The learning from member schools is producing increasing evidence that applying the framework to all aspects of school improvement analysis, evaluation and planning is a very effective tool in discovering new and deeper understandings and creating, more effective solutions for each individual context.



There are, however, a number of elements that it is becoming evident will increase effectiveness and capacity and help to redefine outstanding, when strengthened and refined. The main ones are:

- a strong learning culture that is evident and informs every aspect of the work of the school
- the engagement of all learners in all that they do so as to encourage and support agency
- collaborative and dispersed leadership where everyone exercises and takes responsibility to appropriately lead and to work within a team
- mindsets that recognise and work with complexity; are comfortable with risk-taking and learning from glorious failure; and understanding the locality within the global context.

The role and value of student-led research

This joint project between SSAT and SoTo has sought to engage schools in student-led research projects and explore through the agency of learners their potential for developing improved learning futures for those directly involved and for the school as a whole. The contexts and existing learning cultures of the schools which took part in the project are different, but they all share the intent to increase learner engagement. The reports produced by the students describe the complexity of what this involved, including acquiring research skills, making the project manageable, and producing conclusions that can help progression to further stages.

The challenges involved for students and staff are also evident, and are likely to increase as this initial research is followed by further projects. Students have to learn to be less dependent and willing to take risks. Teachers have to become used to asking the right questions to facilitate students taking the initiative. School leaders have to be prepared to listen and acknowledge the possibility of more effective ways of doing things.

There is also the question of how the student research is regarded and used by the school as a whole. If it is regarded as little more than an 'interesting project', it is almost certainly likely to be marginal to how the school is operating and what is happening in the life of the school. The energy and engagement of students would also be at risk of dissipating. Impact can be maximised and become transformational if the research is given status, referred to, discussed and used to form proposals for action. This will also include making sure that unintended consequences are recognised and capitalised upon. Evidence from SoTo research suggests that schools become much more effective when they are able to spot and magnify the way in which an initiative can act as a catalyst for other actions,

which are often unplanned and unexpected. A way of visualising this is to watch the ripples from the project and to make sure they benefit the whole.

Student-led research is one powerful way of creating learning futures in 'the school of tomorrow'. This is why it is included as a core element of the new SoTo Fellowship which provides a support network and coherent framework within which schools and school leaders, who are committed to working together, can support each other in research-based change underpinned by the SoTo four quadrant model. Each fellowship school will undertake student-led research into how well their school equips them for the future. The expectation is that schools will repeat this research annually, making increasing use of the outcomes to inform progression for learning futures. This is a direct outcome of the commitment and quality of work that contributed to the research reports in this publication.

Conclusion - reconceptualising learning

It is better not to approach Learning Futures, or thinking about the future so we live for tomorrow today, as a desirable activity or a worthwhile project that develops a skill, but as a mindset or a set of dispositions that must be embedded within a school's culture and ethos. It requires a cultural shift in how we learn and think about learning.

The advantage children and young people have is that for them it does not require as much unlearning, but it does require overcoming a cultural heritage that can expect passivity and compliance and assume that there are right and wrong answers.

The challenge for teachers and adults is to learn to listen, to ask questions, facilitate rather than teach, and to be prepared to debate and discuss. An agency mindset will be characterised by the courage to make mistakes and learn from them; to be creative; to be resilient and to persevere. In future, our collective commitment to engage in dialogue with the learners for whom we share a responsibility, and to take time to find different ways through seemingly intransient problems, will be required to design and construct the communities we desire to live in.

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