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Research for Teachers

Carl Rogers and classroom climate

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How can we create an emotionally supportive environment and what difference will it make to pupils' learning?

There's an old saying in teaching, 'Don't smile before Christmas' (meaning 'don't show your nice side before you've shown them who's boss'). But Carl Roger's work led him to believe passionately that teachers should do precisely the opposite. He believed that teachers should seek to create emotionally warm, supportive environments in which they worked collaboratively with their students to achieve mutual goals. In such environments, he suggested, students came to 'love' learning. His beliefs, expressed in his book *Freedom to Learn* (1969), were underpinned by years of experience as a counsellor and supported by research evidence.

Rogers is commonly viewed as the most influential psychologist in American history, the founder of client-centred (non-directive) therapy and the modern-day father of humanistic education. He has made an impact around the world through his empathic presence, rigorous research and authorship of 16 books and more than 200 professional articles. Rogers spent the last ten years of his life applying his theories in the areas of social conflict within nations, including Northern Ireland and South Africa. He received many honorary degrees and awards for his work from throughout the world, including nomination for the Nobel Peace Prize, which as it happened, occurred on the day he died.

In *Freedom to Learn* Rogers also revealed his antipathy towards traditional, transmission teaching. He wrote:

'It seems that to most people, teaching involves keeping order in the classroom, pouring forth facts usually through lectures or textbooks, giving examinations and setting grades. This stereotype is badly in need of overhauling.;

He pointed out how students preferred learning environments in which they were engaged in collaborative learning activities, peer teaching, carrying out their own enquiries and classroom talk that required multiple levels of thinking. In such environments, he saw 'teachers' more as 'facilitators of learning'. But whilst he

fervently believed in teachers giving students 'freedom to learn', he was not suggesting doing away with the teacher's expert contribution. He believed it was vital that teachers always provided enough limits and requirements - support and challenge in today's terms - to structure activities.

Although Rogers' work was first published forty years ago, his ideas are just as relevant today. His emphasis on student well-being is also echoed in current initiatives, such as Social and Emotional Aspects of Learning (SEAL).

In this TLA research summary, we explore Carl Rogers' beliefs about teaching and learning, and draw out the implications for teachers. We look at the kind of teaching and learning environment he believed was most conducive to the learning process, and the interpersonal relationships and approaches that teachers who created such learning environments adopted - demonstrating that pedagogy can only be enacted through human relationships. We look too at some of the research evidence presented in Freedom to learn which showed the positive effect of the caring, empathic approach Rogers advocated, on students and their learning; how it had an impact on student attitudes to school, attendance, self-esteem and attainment. We also show the current applicability of Carl Rogers' work through a number of case studies of classroom enquiries carried out by teachers - available as related pages.

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Overview

Why is the issue important?
All teachers seek to promote significant learning and instil a love of learning amongst their students. Carl Rogers explained how he believed such learning could be brought about in his book *Freedom to learn*, first published in 1969.

What did Carl Rogers believe?
To Rogers, creating successful interpersonal relationships with students was fundamental. He also believed in creating a classroom environment where all participants (ie. teachers as well as pupils) were co-learners in the educational journey.

How was this achieved?
Rogers believed that effective relationships lie at the heart of successful learning and that the way to create successful relationships was through being genuine, and showing students acceptance and empathy, as they worked through learning challenges. He found that when he started to be himself and try to understand his students as learners it completely changed the interaction and the climate of the classroom. He ceased being a 'teacher' (ie. directive). Rather he became a 'facilitator of learning'. ln such learning environments, students were engaged in collaborative learning activities, peer teaching, carrying out their own enquiries and classroom talk that required multiple levels of thinking.

What evidence was there to support his view?
Carl Rogers' ideas about education grew from a lifetime of research, experimental work and interaction with people, both as a counsellor and as a psychologist. At the time of the first edition of the book there existed only anecdotal evidence about the impact on learning of the kind of person-centred classroom environment Rogers advocated, but later editions incorporated a variety of robust research evidence too. The findings showed how, when teachers provided the kind of facilitative climate Rogers described, students learned more, attended school more often, were more creative and more capable of problem-solving.

What are the implications?
Carl Rogers' book *Freedom to learn* shows the value of teachers:

- showing students empathic understanding

- allowing students some (although not complete) 'freedom to learn', such as choosing which tasks they do and/or how they will go about them
- involving students in collaborative work and discussion
- facilitating experiential learning - discovery and problem-solving, requiring pupils to hypothesise, ask questions and discuss lines of enquiry
- providing students with resources that give them the opportunity to learn experientially.

What do the case studies illustrate?

The case studies show:

- how a group of teachers were successful at creating an emotionally supportive learning environment for their pupils
- the impact of enhancing the learning environment and teacher-student relationships on student achievement
- how a group of teachers successfully moved from a didactic teaching approach towards student-centred practices and what helped them to make the change in approach
- the value for teachers of consulting students about their learning.

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Study

What kind of teacher-pupil relationships created a positive learning environment in Rogers' view?

To Rogers, the kind of interpersonal relationship the teacher had with his/her students was fundamental. He believed the way to create successful relationships (in both counselling and teaching) was through being ethical, honest and open , and treating others with acceptance and empathy.

Being genuine

Rogers believed that by choosing not to adopt the kind of teaching persona that is authoritarian, distancing, judgemental, impersonal, one-dimensional, etc., a teacher is more likely to be effective in establishing and sustaining the kinds of human relationships with pupils in which respect for learning and for each other can flourish.

Being accepting and caring

Another attitude Rogers said stood out in those who were successful at creating a positive learning environment was caring for the learner as a person in his/her own right. Teachers with this outlook:

- fully accepted the fear and hesitation of the student as s/he approached a new problem and rejoiced in their satisfaction when they achieved
- accepted a student's occasional apathy as well as his/her efforts to achieve major goals
- acknowledged students' personal feelings that both promoted and disturbed learning, such as sibling rivalry, distrust or even hatred of authority, lack of self-confidence. In return, they gained their students' respect because they showed they were able to talk to the students at their level.

Empathic understanding

Rogers found that students felt deeply appreciative when they felt understood - not evaluated, not judged, but understood from their own point of view. "If any teacher set herself the task of endeavouring to make one acceptant, empathic response per day to a student's demonstrated or verbalised feeling, I believe she would discover the potency of this kind of understanding". He found that when teachers were empathic and understanding, their students tended to like each other better, feel liked by others and tended to have a more positive attitude towards themselves and school.

Listening

Just as with counselling, Rogers believed being a teacher required careful listening to the students' voices:

"As a teacher I must first slow down in order to acknowledge the voices of my students - to take these moments to give value to what is being said no matter how loud or soft, gentle or angry, relevant or irrelevant it may seem".

You might like to read a case study which shows how a teacher gave her students an opportunity to voice their views of their current learning experiences. They identified a number of improvements to teaching at their school, which echoed Rogers' beliefs about creating an emotionally positive learning environment. You might also find it helpful to look at our earlier RfT about *Consulting pupils and students*.

Another pathway: the learning group
Rogers noted how it was common for people to have some sort of interpersonal experience in an intensive group. He noted how many businesses organised teams of people who participated in wilderness experiences together. Universities also sometimes organised retreat groups which included the students and staff. Sessions were held away from the campus in some informal, camplike setting at which students built personal, first-name relationships with tutors and developed friendships with other students. You might like to read a case study which shows how a group of teachers improved their relationship with their students through organising a weekend revision retreat at a youth hostel, and how doing this combined with group work activities helped to raise student achievement.

What effect did showing empathy have on the classroom climate?
Rogers worked extensively as a counsellor with students in distress. He learned that if he tried to understand them and trusted them as essentially competent people, then the students began to:

- develop clearer and deeper self-insights
- see what they might do to resolve their distress
- take actions that made them more independent and that solved some of their problems.

When he started to use the same approach with classes of students, he found that his classrooms became more exciting places of learning. It completely changed the interaction and the climate of the classroom. He ceased being a 'teacher' (ie. directive). Rather he became a 'facilitator of learning'. As a facilitator, he found the students started to tell him their feelings and ask questions. The students also felt able to challenge him, even criticise him and not be put down or rebuked or humiliated. These kinds of classes helped students to become more interested and independent learners.

At the same time, Rogers found himself more able to accept variety in student work and also freer to express vague, ill-found ideas himself (he commented that creative ideas were almost always half-baked) which he then enjoyed discussing with the students. Trusting the students extended to getting the students to assess their own work. He would tell students:

"Give yourselves the grade you think is fair, but I ... must [also] sign the grade sheet, giving it my approval, so I believe the grade must be mutually acceptable. If I find a discrepancy between my subjective evaluation of your work and your subjective evaluation, we will discuss it together and try to agree on a reasonable grade".

In practice, he found that he insisted on giving a higher grade far more often than he argued about a grade he felt to be undeservedly high.

What did research say about the impact of Rogers' kind of approach?
Freedom to learn presented the findings of a variety of research studies, which showed how, when the teacher provided the kind of emotionally supportive, facilitative climate Rogers described, students learned more, enjoyed lessons and attended school more often. They were also more creative and more capable of problem-solving, showed more spontaneity, initiative and independence and liked their teacher more. Furthermore, studies indicated that low ratings on understanding, genuineness, respect, and high rating on directive teaching accompanied lower levels of pupil intellectual performance and significantly negative emotional experiences. We give some examples below.

How did being empathic make a difference?
In one study involving 600 teachers and 10,000 students aged 4-18 years, the students of teachers who were trained to offer high levels of empathy and caring were compared with students of teachers who did not offer high levels of these conditions. The students of the highly facilitative teachers were found to:

- miss fewer days of school during the year (on average five days compared with nine)
- have increased scores on self-concept measures, indicating higher self-esteem
- make greater gains on academic achievement measures, including both mathematics and reading scores
- present fewer disciplinary problems
- commit fewer acts of vandalism to school property
- be more spontaneous and use higher levels of thinking.

Furthermore, these benefits were cumulative; the more years in succession that students had facilitative teachers, the greater the gains, both intellectual and affective, when compared with students of traditional teachers.

What other behaviours characterised empathic teachers?
Several studies showed that teachers who provided high levels of empathy and caring were also characterised by a cluster of other behaviours including:

- more discussion with students
- more use of student ideas in ongoing teaching interactions
- more smiling with students.

In return there was:

- more student talk
- more student problem-solving
- more asking of questions
- more involvement in learning
- more physical movement
- higher levels of cognition
- greater creativity
- more eye contact with the teacher.

The importance of eye contact
One study showed that many teachers did not maintain eye contact with their students. The researchers concluded, "Some students never receive favourable eye contact from a teacher and receive only negative eye contact when they are being disruptive". When they helped teachers develop more positive eye contact, student attendance increased significantly.

Why did Rogers prefer to view learning as 'facilitated' rather than 'taught'?
Rogers commented how 'teaching' in the traditional sense of the word was based on the (mistaken) assumption that what was taught was learned. He said, "One does not need extensive study to provide evidence that this is false. One needs only to talk with a few students".

Rogers argued that transmission teaching or "telling" might make sense in an unchanging environment, but pointed out that we live in an environment that is continually changing. The goal of teaching therefore should be the facilitation of learning and change:

"Merely to absorb facts is of only slight value in the present and usually of even less value in the future".

"The only person who is educated is the person who has learned how to learn; the person who has learned how to adapt and change".

As we described earlier, Rogers felt it was important that learning facilitators showed their students empathy. Above all, he said, they should not put on a front, but be themselves and let their students know they care.

"Some readers may feel that the whole approach - the belief that teachers can relate as persons to their students is hopelessly unrealistic and idealistic. I'm sorry, I cannot be coolly detached about this... I can only be passionate in my statement that people count, that interpersonal relationships are important. Better courses, better curricula, better coverage, are not enough".

You might like to read a case study which showed how a group of teachers succeeded in providing the kind of facilitative climate Rogers advocated.

How did the two teaching approaches differ in Rogers' view?
Rogers showed the difference between teaching approaches by placing teaching practices on a continuum:

Teacher-focused:
- lecture
- questioning
- drill and practice
- demonstration
- discussion
- collaborative groups
- guided discovery
- role-play
- projects
- enquiry

Student-focused:
- self-assessment

Presenting teaching approaches in this way offered a continuity between the two ends of the spectrum. Briefly, at one end, in teacher-focused learning environments students would be consumers of information. At the extreme, students always sit and listen to their teachers talking, do worksheets, and sit mostly by themselves, working on what the teacher has provided.

At the other extreme, in student-focused learning environments, students would be the producers of ideas. Students would be encouraged to become engaged through collaborative learning activities, peer-teaching, field trips, projects and classroom talk that requires multiple levels of thinking. They would create new ideas and materials through projects, usually talk aloud about the way they derived an answer and take the initiative to interact with teachers and peers.

You might like to read a case study which shows how a group of teachers went about changing from their usual didactic approach towards a more student-centred approach by offering the students more collaborative work and open-ended, enquiry tasks.

To Rogers however, it was not a case of doing one or the other, but of creating a classroom environment where all participants (ie. teachers as well as pupils) were co-learners in the educational journey and where teachers both modelled and facilitated learning activities through effective relationships with others.

How did Rogers believe teachers could provide opportunities for co-learning?
According to Rogers, to become co-learners, teachers needed to incorporate student-focused approaches, which included:

- learning through enquiry

- peer teaching
- co-operative learning
- self-assessment.

Learning through enquiry
Like Vygotsky Rogers believed in the importance of the teacher setting the stage for a mindset of enquiry by posing the problems and giving assistance - making it possible for students to achieve discoveries independently. He likened the process to that used by scientists and historians etc, with the students seeking answers to real questions, discovering the pitfalls and joys involved. He pointed out that they may not learn as many facts, but would develop an appreciation of learning as a structured and cumulative search for answers. You may like to look at a case study of how a teacher enabled her pupils to work in the same way as academic historians, through being history detectives, which we included in our earlier RoM about Jerome Bruner's work.

Peer teaching
Activities such as peer teaching had many advantages in Rogers' view, both for the student who was being helped and for the older or more advanced student who was doing the teaching. You may like to look at a case study of peer teaching which we included in our earlier RfT about teaching phonics.

Collaborative learning
Rogers felt that too many schools were silent and that some teachers avoided group activities because they created too much noise. He also felt that often students missed out on opportunities for engaging in meaningful dialogue when they were expected to sit quietly and listen to others speak. He referred to studies of the time that showed how 70-80% of classroom talk was by the teacher. You might like to read our earlier RfT about raising achievement through group work which helps to tease out the key characteristics of effective facilitation of collaborative learning and our earlier RfT about effective talk in the classroom which shows some of the challenges in moving beyond teacher talk.

Self-assessment
Rogers felt it important that some degree of self-assessment was built into any attempt to enable learning from experience. He believed that the evaluation of one's learning was the main way student-led learning also became responsible learning. When the individual has to take some responsibility for deciding the extent to which s/he has achieved particular goals or criteria, then s/he learns to take responsibility for him/herself. We look at self-assessment in more detail in our earlier RfTs about assessment for learning and learning how to learn.

How did Rogers believe teachers could best structure student learning?
Methods and techniques that Rogers found teachers had successfully used to structure student learning included:

- building on problems perceived as real
- providing resources
- identifying objectives clearly.

Building on problems perceived as real
Rather than provide pre-determined learning material, Rogers believed it important that teachers drew out from students problems or issues that were both real to them and relevant to the course, but he appreciated that it was sometimes necessary to create or contrive problems for them.. You might like to look at a case study which describes how teachers presented students with geography-related problems, such as why a block of flats needed to be demolished and helped them to consider the problem from a variety of perspectives by setting up a mystery activity.

Providing resources
Instead of spending time planning every second of detailed input for lessons, Rogers believed that teachers

should concentrate on providing resources that gave students opportunities for learning from experience and in ways relevant to their needs. He advised making the resources clearly available by thinking through and simplifying the steps the student must go through to use the resources - eg. by making a shelf of books available for loan, inviting people in from the community or providing feedback sheets summarising the major problems discussed/resolved in the previous session. You might like to read our earlier RfT about the Pedagogies with E-Learning Resources' (PELRS) project in which teachers planned learning events for their students that allowed the students to decide on their own learning activities and choose resources to help them from a careful selection provided by their teachers that included books and a range of e-learning materials.

Identifying objectives

Rogers preferred to think about objectives in relation to the conditions of learning. He was concerned about an emphasis on behaviour and performance in many so called learning objectives. He wanted objectives to help teachers focus on the underpinning learning process. The kind of facilitative classroom that Rogers aimed for focused on creating the climate for learning and experiences that supported student understanding. The following examples show how he saw the difference between the different kinds of objectives.

- The students will be able to write an organised account of the contributions of ancient Egypt to modern world societies.
- The students will plan for and go on a field trip visit to the ancient Egyptian collection at the museum to develop their understanding of the contribution of ancient Egypt to the modern world.

In the first statement, what the students were expected to do to demonstrate their competence was predetermined; in the second, the experience was prescribed and the learning process was in view, but the steps in between were not predetermined and the learning outputs/outcomes could be negotiated.

How do we know this?

Carl Rogers' ideas about education grew from a lifetime of research, experimental work and interaction with people, both as a counsellor and as a psychologist. Rogers wrote the first edition of Freedom to learn (published in 1969) in response to a request from his niece, who was a teacher. At the time he had only anecdotal evidence about the impact on learning of the kind of person-centred classroom environment he advocated.

For the second edition (published in 1983), Rogers sought the input of teachers and researchers. Rogers incorporated many examples of teachers' experiences with learners of all ages as well as research data. The research evidence was drawn from many sources, documented over time and in different contexts. Some of the data were based on tape recordings of thousands of hours of classroom interaction in eight countries. These represented all levels of education, many different ethnic and national groups and a wide spread of geographical locations. Other research was drawn from longitudinal studies of caring schools and families.

Jerome Frieberg (an American professor of education) was a major contributor to the second edition. He also provided feedback on the manuscript during its preparation. Later, after Rogers' death in 1987, Frieberg set about providing a 1990s perspective to the book. He retained many of the chapters with few changes because he felt they stood the test of time, but he also introduced a great deal of new material to incorporate more recent experiences.

Implications

Teachers may like to consider the following implications of Carl Rogers' book *Freedom to learn*:

- Rogers believed that teaching which involved facilitating learning was preferable to direct instruction. You might like to reflect on one of your recent lessons and consider the balance between the amount you directly teach and the amount you facilitate your students' learning. Could you provide more opportunities for student-led learning in your next lesson(s), for example through allowing students to choose which tasks they do and/or how they will go about them?
- facilitated learning involves providing pupils with opportunities for problem-solving, which require pupils to hypothesise, ask questions and discuss lines of enquiry. Could you provide more opportunities for pupils to work together, and with you, to solve problems? Would you find it helpful to share ideas with colleagues about the kinds of

problems that enthuse pupils?

- Rogers referred to studies of the time that showed how 70-80% of classroom talk was by the teacher. You might like to see how much pupils contribute to the talk that goes on in your classroom. You could make a video or audio recording of part of one of your lessons or ask a colleague to observe, and note down the number of times you speak and the number of times your pupils speak to you, and to each other, as well as the length of yours and your pupils' interactions (ie. number of words) to find out the proportion of time you and your pupils talk. Would you find it helpful to discuss with a colleague how you might increase the amount of talking your pupils do?

- Rogers was passionate about teachers showing their students empathic understanding. This often happens instinctively and in unnoticed ways. Perhaps you could try to be show empathy more actively. You could make a note of any empathic responses you make, and to which students, and monitor their effect over time on their attitudes/behaviour? You might, for example, sympathise with a student who was unhappy about not being chosen for the football team, commenting that you'd feel like that, or that had happened to you too or that s/he had done well to get that far etc, then ask what s/he might do next.

School leaders may find the following implications helpful in acting on the messages in this RfT:

- To Rogers, the kind of interpersonal relationship the teacher has with his/her students is key. Are you aware of differences in emotional climate between classrooms? What signs do you look for? How do such differences arise? How do you handle them? Would peer observation and/or team teaching focusing on how teachers relate to their students help your colleagues develop further the emotional climate in their classrooms? Would it also help for teachers to talk about their own feelings and whether these might have an impact on the classroom environment?

- Rogers believed that as facilitators, teachers should concentrate on providing resources that give students the opportunity to learn through experience. Do you have colleagues who have experience in working in this way who could share their approach and/or coach others? Or would it be possible to offer teachers time to work together to plan problem-solving and/or enquiry activities and work together to explore their effects in different classrooms, phases or departments?

- Rogers' beliefs underpin current assessment for learning practices which help pupils learn how to learn. Would professional development activities geared towards deepening and extending formative assessment practices help your colleagues to help their pupils take more responsibility for their own learning?

Filling in the gaps
Gaps - of basic premises, related issues methods, analysis and/or interpretation - that are uncovered in a piece of research also have a useful role in making sure that future research can fill in the gaps and build cumulatively on what is known. If research is also to inform practice, it needs to be convincing to teachers, and to take account of their views of its adequacy; so practitioners' interpretation of the gaps and follow-up questions are crucial. We think the following areas would be fruitful:

- the impact of teaching-with-less-telling on particular groups of pupils eg. special needs pupils; underachieving gifted and talented students, and

- the impact of creating an emotionally supportive environment on disaffected students.

Do you think that research exploring these questions would help you inform your practice?
Which issues are of most interest to you?

What is your experience?
Do you have any evidence regarding changing from a traditional teaching style to facilitating student-centred learning or how you create an emotionally supportive classroom climate? We would be interested to hear about examples of changes you have made and the impact they have had which we could perhaps feature in our case study section.

Your feedback
Have you found this study to be useful? Have you used any aspect of this research in your own classroom teaching practice? We would like to hear your feedback on this study. To share your views with us email: research@gtce.org.uk

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Case studies

We present four case studies carried out recently by teachers in the UK which confirm some of the key messages from *Freedom to learn* by Carl Rogers.

Consulting students about learning

We chose this case study because it shows how students can give teachers much help in making improvements to teaching when they are given opportunities to talk about their learning experiences. The study took place in a large, mixed comprehensive school and involved the school's sixth form students. Data were gathered via a questionnaire and interviews with a small group of students. The students identified a number of teaching and learning features which they considered important. These echo Carl Rogers' beliefs which we summarised in the main study.

Being involved in stimulating activities
The students felt that having a variety of activities, such as group work, debates, class discussion, role play and practical work helped to make lessons enjoyable and stimulating. They wanted to be involved in the lesson as much as possible. Students found activities which involved finding out for themselves the most stimulating. The students felt very strongly that dictation and being "talked at" was de-motivating. One student commented: "If I am only given notes all lesson long, which are not further explained, I feel de-motivated towards the course. I lose interest, therefore I do not understand".

Enthusiastic teachers
The students felt that having an enthusiastic teacher was important for several reasons:

- it showed they were interested in the students and their work
- it increased their interest in lessons and made them enthusiastic about the subject
- when a teacher was not enthusiastic, it dampened their own enthusiasm.

Teachers who are understanding and approachable
Being approachable encouraged students to ask for help, so that they could complete more of the work and gain a better grade. The main causes of students' failure to complete homework were a lack of understanding of the task and long deadlines. This indicated that the students felt they could not approach their teachers for advice and/or that their teachers did not spend enough time explaining the homework tasks. The students said they would appreciate having more time to talk with their teachers. Most asked for individual meetings with them. They wanted time to discuss:

- their progress
- how to improve their work
- course content
- time management
- personal issues
- UCAS applications
- career choices.

Feeling in control of their work
When students felt under pressure (with the demands of part-time jobs, their social life and the different

demands of course work and module exams) they valued work that they could see the importance of completing. This raised the question of how much ownership or control they had over what they did. One student suggested negotiating homework: "I think pupils should have a say sometimes in how much homework they have, and they should be able to discuss with teachers appropriate deadlines when there are other pressures like exams present".

Working with other students
The main benefit students saw in working together was helping with each others' work. They commented:

- "Students that have a good understanding can put ideas into simple terms"
- "We help each other to complete difficult tasks"
- "We get on well with each other, so ideas are exchanged, therefore improving our learning".

Reference
Morgan, H. (1997) Motivation of sixth-form students. A research project commissioned by the Teacher Training Agency (now the Training and Development Agency) as part of the Teacher Research Grant Scheme 1996/7

Raising achievement by enhancing the learning experience

We chose this case study because it shows how teachers improved their relationships with their A level mathematics students and the effect this had on student motivation, enjoyment of mathematics and retention. The teachers improved their relationships with the students through creating more interactive lessons and by taking the students away on weekend revision retreats.

The study involved two mathematics teachers and their A level classes at a specialist Technology College in North Tyneside which had a wide catchment area containing pockets of social and economic deprivation. The teachers had felt they needed to change their methods of teaching A level away from their usual "chalk and talk" style. They were aware that their A level teaching style contrasted sharply with their more interactive approaches at Key Stages 3 and 4 and also with other lessons such as science, where students were offered more opportunities for practical work.

To begin with, the teachers canvassed the opinions of students who had opted to take A level mathematics. They employed a researcher from outside the school who gave the students a questionnaire (put together by the teachers) and video-interviewed a sample of students from each of the A level classes. They found that students appreciated lessons in which they were enabled to work independently or in groups undertaking tasks that moved away from simply answering questions from a textbook.

The teachers then invited their lead subject professional (LSP) for mathematics to show them some high quality A level teaching methods. She observed the teachers' lessons and gave them feedback. She also taught demonstration lessons which the teachers videoed and discussed. At the same time, the teachers started to develop a range of game-based activities for the students to work on in pairs and groups such as card sorts involving matching and sequencing. They aimed to incorporate these activities into their lessons at least once a fortnight.

The revision retreats
The teachers decided that having improved the 'diet' of lessons, they needed to consider revision techniques used by the students. They discussed various possibilities before settling on a 'revision' retreat for the Year 12 students that took place at a Youth Hostel from Friday afternoon to Saturday afternoon a few weeks before the modular exam in June. Over the weekend the students completed a variety of group activities, including floor jigsaws and treasure hunts. Aside from the benefits the students found from the revision time, the informal setting afforded the teachers the opportunity to get to know the students on a more personal level. This helped make the students more prepared to seek help from teachers other than their own. The revision retreat was viewed as so successful, the teachers ran another weekend retreat for both Year 12 and Year 13

the following year. The teachers had to find a larger venue such was the level of interest.

What impact did the change in teacher-student relationships have on the students?
The teachers noted the following differences:

- retention of students between Year 12 and year 13 increased (60% completed the two year course in 2008 compared to only 25% in 2006)
- further mathematics ran in both year 12 and year 13 for the first time
- more students elected to study mathematics at university level
- more purposeful relationships developed between students and teachers
- student motivation and enjoyment increased.

When asked about their relationships with their mathematics teachers, the students commented, for example:

"Spot on! Really helpful, especially with further maths".

"Very friendly and approachable".

The students also developed as learners and appreciated the advantages of the new learning styles as these comments show:

"I used to prefer working on my own, but now I enjoy talking in pairs and group work more"

"Pair and group work give us more confidence".

"I can express myself much better now".

"Initially it was more confident ones dominating - now there is more trust and openness so everyone takes part".

Reference
Callender, S. (2008) Raising achievement in mathematics by enhancing the learning experience. National Teacher Research Panel conference summary. Available from: www.standards.dfes.gov.uk/ntrp/publications/

Providing children with an emotionally supportive learning environment

We chose this study because it illustrates how adults built an emotionally supportive and non-judgemental environment in which very young children (aged 3 to 4) were encouraged to pursue their obvious interest in making dens. The children attended an inner-city nursery school which had a broad ethnic mix of both children and staff. The project took place in the grounds of the nursery, as well as an orchard and a country park, which extended the facilities that could be offered to the children.

On being told that, in comparison with other nurseries, the staff were successful in the way they conducted outdoor activities with the children, the staff set out to analyse what they did that made the difference. To help them do this, they took photographs and made audio tape recordings of themselves talking with the children during the outdoor sessions. They focused on the dynamics of their relationships with the children:

- what the adult said to the children
- how the adult said it
- how the children responded
- where the adult and children were positioned during the interaction.

When they analysed their data, the staff noticed that they had created a culture of freedom and partnership in learning.

Relationships built on equal partnerships
The adults and children worked together as equals on the dens. For example, rather than lay down rules at the start about the safe use of cutting tools, the adults described or demonstrated safe practice as and when each child needed to know. For instance, when a child who was about to use a pair of secateurs to cut a stick, positioned them too close to her other hand, an adult stopped her to make her aware of the safety issue. The child then continued with the task confidently and competently. Through these processes, they found the children very quickly learnt to make their own risk assessment. They also ensured that other people, including adults, complied with the safety rules.

Giving the children freedom to decide what to do and when
During the activities, the children had the freedom to decide for themselves how much time they spent on a particular activity. They spent long periods of time on activities of their choice, such as making woven wooden panels to decorate their dens, or transporting logs from one place to another. The children often chose to return to the same activity at the start of a new session if they had left it unfinished on the previous occasion.

Modelling behaviour
The staff found that the children adopted the same attitudes as the staff. Once, a child jumped in a puddle excitedly. She then looked guiltily at the adult following her, but was reassured when the adult smiled and jumped in too. This was followed by a few moments of fun splashing in the puddle together which other children joined in with too.

Being silent and non-judgemental
When they listened to the audio recordings, the adults became aware of their long silences during the sessions. Their silent presence allowed the children to work at their own pace on tasks of their choosing. They were always on hand to support and help the children if they wanted it, but they held back from giving advice or instructions until the children asked for it.

A focus on the process
The adults' belief that the process was at least as important as the outcome of the children's efforts enabled them to support each individual child's choice of activity, regardless of whether it was obviously productive or not. The adults' confidence in them helped the children feel confident about what they wanted to do.

Offering help as and when the need arose
Learning happened incidentally. For example, the children learned different ways of tying knots when making each den roof. They pursued this interest in the classroom, learning many more knots, some of which were quite intricate. The teachers found that, once a child's interest was caught, even children who usually had a short concentration span could persist with an activity for an extended period of time.

Reference: Magraw, I. & Dimmock, E. (2006) Silence and presence: How adult attitude affects the creativity of children. National Teacher Research Panel conference summary. Available from: www.standards.dfes.gov.uk/ntrp/publications/

Changing to an enquiry-based approach in KS3 mathematics

We chose this case study because it shows how a group of teachers moved away from their usual didactic approach towards offering students more collaborative work and open-ended tasks. The study took place in the mathematics department of a girls' grammar school.

The teachers were aware that the method of teaching they used was very traditional, as it was based mostly on exposition and practice. In particular, they felt that the syllabus they were following with their Year 7 classes

relied too much on a textbook, that they also tended to compartmentalise mathematics and tended to miss opportunities for encouraging students to make connections across topics.

To begin with, the staff had mixed feelings about moving away from their usual teaching approach. Whilst there was excitement and enthusiasm for making the change, staff also felt some trepidation about working in an unfamiliar way and were concerned about how it would work. A number of factors helped them to make the transition.

Working with an experienced practitioner
The department invited an external consultant to work with them. He discussed possible approaches to various topics during a number of extended departmental meetings. He also came in on several occasions to teach different classes so that staff could watch him model the new approach. Some staff opted to team teach with him. Usually his lesson would throw up a number of lines of enquiry the teachers could pursue in subsequent lessons. For example, teachers followed up a lesson which involved trying to identify all of the possible quadrilaterals on a nine pin geoboard with other enquiries, such as 'What if we try triangles / more or less pins?'

Trying out the new approaches themselves
Staff trialled some of the new approaches with a view to including them into a new scheme of work for their Year 7 and Year 8 classes. In some cases the activities seemed appropriate or adaptable for other year groups, so they tried them there too.

Sharing the experience
Naturally, it followed that after the teachers had observed the consultant teaching, or had tried one of his suggestions with their own classes, they were inclined to discuss and dissect the experience. The consultant also encouraged them to write accounts of the lessons that they had taught, so that the sharing happened in a more formal and inclusive way than ad hoc staffroom discussions.

Joint planning and reflection
The teachers adopted a collaborative approach to planning. Two teachers would plan a unit of work lasting several weeks. They then swapped with another pair and taught their unit. Working in this way encouraged them to sit down together at the end of a module and debate the merits of particular activities and approaches. They also met regularly with the consultant to review what they had done.

Critical incidents
The staff were aware of a number of critical incidents during their journey. For example:

"Working with Mike (the consultant) helped us see how the new approach allowed students to think more freely ... and how much more enriched it was mathematically speaking. It also gave a valuable insight into how work could allow greater student interaction with peers and with the whole class".

"Finding pupils can sort out problems themselves and pose questions and raise issues".

"I have was surprised by the insights pupils shared when asked to find their own method to solve a problem or when asked to justify a particular solution".

What difference did the change of approach make to the students?
Students who had experienced the new curriculum were:

- more prepared to engage in open-ended tasks
- well practised at justifying their reasoning or approach
- frequently challenged to use higher order thinking skills
- enthusiastic about mathematics

- less likely to say "I can't do mathematics"
- more likely to pose their own mathematical questions or make conjectures based on what they had noticed
- more inquisitive and critical in their thinking.

Staff commented:

"They feel that they can do mathematics as they aren't limited by one particular method. They seem to have more fun and work enthusiastically"

"They are able to demonstrate more reasoning and logic than in a more formal, working from a textbook situation".

Reference:
Richards, M. (2008) Changing to an enquiry-based approach to mathematics teaching and learning at KS3. Teacher Enquiry Bulletin, National Centre for Excellence in the Teaching of Mathematics (NCETM)
www.ncetm.org.uk
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Further reading

1. Related websites
Carl Rogers and informal education

Carl Rogers's biography

Student-centred learning: Is it possible?

The Carl Rogers website

2. Related RfTs
Assessment for learning: putting it into practice
www.gtce.org.uk/research/romtopics/rom_teachingandlearning/afl_mar07

Bruner's constructivist model and the spiral curriculum
www.gtce.org.uk/research/romtopics/rom_teachingandlearning/bruner_may06

Learning how to learn through assessment for learning
www.gtce.org.uk/research/romtopics/rom_teachingandlearning/afl_mar07

Promoting students' persistence in meeting learning challenges
www.gtce.org.uk/research/romtopics/rom_teachingandlearning/persistence_oct07

Raising achievement through group work
www.gtce.org.uk/research/romtopics/rom_managementoflearning/groupwork_nov06

Transforming teaching and learning with ICT
www.gtce.org.uk/research/romtopics/rom_teachingandlearning/ict_nov07

3. Resources
Finding out how you teach
Questionnaires for teachers and students to complete designed to help teachers find out the methods they use and methods they might like to try out

Student-centred learning
Powerpoint slides
http://besig.org/events/conf2007/downloads/Appleby.ppt
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Appraisal

Robustness
Freedom to learn, by Carl Rogers, is generally recognised to be a seminal text in the area of learning and teaching. It was part of the revolution that moved education towards a more student-centred approach. Rogers (1902-1987) is known as the founder of 'client-centred' or 'non-directive' therapy. His approach was borne out of experience he gained from counselling - that the client usually knows better how to proceed than the therapist.

Rogers felt that all human beings have a natural propensity to learn; the role of the teacher is therefore to facilitate such learning. This includes:

- setting a positive climate for learning
- clarifying the purposes of the learner(s)
- making learning resources available
- balancing intellectual and emotional components of learning
- sharing feelings and thoughts with learners, but not dominating or directing.

According to Rogers, learning is facilitated when:

- the student participates completely in the learning process and has some control over its nature and direction
- it is primarily based upon practical, social, personal or research problems
- self-evaluation is the principal method of assessing progress or success.

Rogers' humanistic theory is corroborated by classroom research. The third edition of Freedom to learn gives examples of school studies where empathic understanding, genuineness, warm respect, and nondirective activities facilitated the quality of the pupils' intellectual contributions during the lesson, their spontaneity, their independence and initiative, their positive feelings during the lesson, and their positive perception of the teacher. Furthermore, studies indicated that low ratings on understanding, genuineness, respect, and nondirective facilitation and high rating on directive teaching accompanied lower levels of pupil intellectual performance and significantly negative emotional experiences.

Relevance
Rogers' theories seem especially pertinent now that England is in the throes of revising the strictly prescribed content-based national curriculum to encourage more flexible and cross curricula learning. His beliefs underpin and inform a great many teaching and learning strategies which contemporary research shows are effective, such as enquiry-based learning (which involves solving problems and discussing solutions), collaborative group work, whole class interactive teaching, and assessment for learning practices - details of which are provided in several Research for Teachers summaries. The goal of such 'student-centred' approaches is to enable students to learn how to learn for themselves making the teacher's role that of facilitator and co-learner rather than fount of all knowledge. On top of this, Rogers' work emphasises the importance of creating a warm, emotionally supportive classroom environment, as well as how to go about achieving it.

Applicability

Rogers' ideas are applicable to all subject areas and at all phases. The book provides a focus for reflection and action for schools and teachers on ways of facilitating student-centred classrooms, how such classrooms provide opportunities for co-learning, as well as ways of enhancing teacher-pupil relationships and the benefits of doing so.

Writing

Freedom to learn is very readable. In keeping with his beliefs and practice as a counsellor, Rogers gradually unfolds his ideas about teaching using a warm, informal, narrative writing style that includes a great many anecdotes about teachers' and students' experiences of school. Teachers will find that these anecdotes together with the questions he poses along the way, such as 'Why do kids love school?' and 'As a teacher, can I be myself?' will help them see how they can relate his ideas and beliefs to their own classroom practice and experience.

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