Example #12 Community and Maths

What if maths created a community in which all could achieve?

Jarek worked hard to create a collaborative culture in his maths lessons. He wanted to create a 'maths community' where the progress of the whole class mattered.

"I wanted the students to support each other in an appropriate way while still stretching high achieving students and giving them the chance to work together. The ethos could be summed up as:

- It's OK to make mistakes
- Students' viewpoints are valued
- High expectations of every pupil, including courteous behaviour (which I try to model)
- Creating opportunities for all to achieve
- Acceptance of personal, anecdotal contributions to lessons drawing on students' experiences
- Balancing excellence and attaining high grades with being true to other values like 'care for my neighbour'
- Care and support for all pupils according to need

"I changed the layout of the room with more able pupils sitting alongside less able pupils when that was appropriate to the lesson. Those who completed their work early were allowed to look around and move to work with those who needed help in a peer mentoring manner. I explained to the students why I was doing this – what kind of community ethos I wanted us to build, where we try to help others learn. On the other hand, I wanted to avoid high achievers acting as 'teaching assistants'; I wanted the help to go two ways which is why anecdotal contributions were important: a range of students can contribute those. This way of working is still new for me: I need to work harder at assessing how groups work together, not just the achievement of individuals as a result of working together. "

What's going on here?

Jarek saw his maths lesson as an opportunity to create a supportive mathscommunity.

He **engaged** students in shifting their interaction with one another's work from competition to collaboration, and in reflecting on why the changes are being made.

Jarek **reshaped his practice** by changing the rules for class interaction and the layout of the room in order to affect the ethos. He was on his way to developing new evaluation strategies that matched his classroom ethos.

How do I do this myself? (Primary) How do I do this myself? (Secondary)

What does this have to do with faith, hope and love?

'Loveyour neighbour as yourself' was demonstrated within the group, through encouraging each pupil to serve their neighbour. Appropriate recognition was still given to God-given abilities and gifts, but caring for students who are learning less quickly has been made part of the expectation. Students are encouraged to seek the good of others. Love was expressed, as thanks and praise were given, acknowledging the contributions of each class member.

What difference does it make?

Collaboration in this way challenges a mindset of individualism and autonomy. Common maths classroom models can perpetuate individualism and competition and a lack of awareness of others in the group. The result was that more able pupils continued to attain high grades in maths, while less able pupils achieved more than previously. The attainment of the whole group was improved through a community emphasis and the class atmosphere was changed.

Where could we go from here?

Jarek could further build a sense of community in his maths lessons with maths news that is appropriate, introducing big questions relating to maths (see e.g., http://www.calvin.edu/kuyers/math/index.html), and maths fun (see e.g., http://www.counton.org/thesum) so that students don't just work together but discuss news items, have fun and discuss issues of faith and values as they arise. The school can also extend this practice into other subject areas. Sometimes concerns are raised about the progress of able students if they are helping others, but explaining to others often helps clarify a student's thinking, and able students can still be set work at their own level.

Digging deeper

Modern economies tend to stress the individual and be based on competitive models. Although this has brought a certain type of freedom and economic progress, it can lead to a lack of connection with others and a lack of progress in the more communal aspects of living. This lack of connection can make it difficult to make choices with others in mind. The Bible stresses the connection between people.

> We have all known the long loneliness and we have learned that the only solution is love and that love comes with community.
> Dorothy Day

There is a sense of mutual responsibility that is taken for granted in the Bible. When Cain said, "Am I my brother's keeper?" he already knew the answer was "Yes". The church is compared by St Paul to a body where the parts are dependent on each other (1 Corinthians 12:12, 1 Corinthians 12:27) and where people bear one another's burdens and share their highs and lows (Galatians 6:2; Romans 12:15). This creates a strong element of belonging both to God and each other. The community is to take care to look after its weaker members (1 Corinthians 12:21-23).

Christianity is not a religion of lone rangers; faith grows and is practised in community. Christian fellowship is an expression of the underlying community between Christians. Christ is the head of the community and all are dependent on him (1 Corinthians 12:22; Ephesians 1:22). The Holy Spirit binds the Christian community together (Ephesians 4:3).

Explore similar examples:

What if primary modern foreign languages encouraged good relationships?

What if a lesson on class rules were about growing together?

What if a teacher's posture in the classroom helped build respect?