



Math: Pie Charts and Giving

What if making pie charts were connected to giving?

The news recently had been filled with stories of displaced people after the massive earthquake in Haiti, and Alison's class had been talking about how they could help. They came up with the idea of a cake sale to raise some money to give to the relief fund.

"The class needed to review simple money calculations, ratios, and constructing pie charts, so this seemed a good way to combine their desire to raise some money with reviewing some math skills. There was no problem getting everyone involved, since it was their idea. All I did was facilitate it happening, and they gained some math and home economics review as a bonus! Working with my colleague in home ec, we agreed when the cooking could be done in that lesson, and when the sale could happen.

"The simple recipe for 15 cakes was the starting point. They had to calculate the cost of ingredients, work out how much would be needed if they made multiple batches of cakes (ratios), budget the project (money calculations), and work out a sale price, expenditure and income, cost and profit, potential loss, etc. They were also able to draw pie charts showing cost and profit and the relative costs of different ingredients. The math got pretty complicated for some of the less-able students, but they all worked really hard at the project and solved the problems together. At the same time they raised a considerable amount of money for the earthquake appeal. During the whole project, we engaged in discussion about giving to charity: Why do some people give money away regularly to churches and charities? We talked about the Bible's teaching about money and giving it away or back to God, how we should do that, and different attitudes to money and giving. As well as all that, the math review was done willingly and for a reason other than passing a test. It had been their idea, after all."

What is going on here?

Alison's class saw cooking as a way of serving others and giving to those in need, integrating math, home ec, and civics.

Alison engaged students in making connections (math and cooking and biblical insights) and in serving the wider world, and thus encouraged them to adopt an outward-looking attitude.

She reshaped her practice by combining different areas of learning, raising faith-related questions, and finding concrete ways to relate math and cooking skills to a purpose beyond the classroom.

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

The students demonstrated love and concern for those in need and translated it into action. The Bible says that faith without action is dead and calls people to be doers, not just hearers of the Bible's teachings. Jesus's parable of the two sons picks up the theme and commends the son who helped the father, not the one who said he would but then didn't (Matthew 21:28-32).

What difference does it make?

Alison showed that concern about an issue can be carried through into practice. She actively worked with colleagues to enable this to happen; this is difficult when time is precious, but it modeled cooperation for the students. The students were able to connect their learning to real needs and improve their maths skills while acting out of compassion.

Where could we go from here?

Now that she has enabled this student initiative to happen and demonstrated the learning that can result from it, Alison is in a position to develop other student initiatives that look outwards to others or raise awareness of important issues. It is important to display images of these initiatives and make them known in the school in order to stimulate students to think of others and to demonstrate the learning involved. She could consider how to expand the range beyond giving money from afar so as to keep compassion from becoming an attitude of smug superiority.

Digging deeper

The Bible describes God as a giving God. He loved the world by giving his only Son (John 3:16); he provides for people; and he is called the Provider. For Christians, giving happens in response to God's giving to us. Giving and receiving are essential parts of Christian community life, not something that happens occasionally or reluctantly (2 Corinthians 9:5-15). Gifts and material wealth also carry responsibility: they are for serving the common good. Money is not bad, but we should not "serve" it (1 Timothy 6:10). The attitude of the Bible is summed up in Luke's gospel: we are not defined by what we own (Luke 12:15).

Giving a minimum of one-tenth was practiced in the Old Testament (Leviticus 27:30-32). Some Christians follow this practice today. Others give what they can depending on circumstances and bearing in mind the Bible's teaching about generosity and care for the poor (2 Corinthians 8:10-12).


Our society looks for freedom and happiness in wealth, fame, and power. The Bible sees it in giving and serving others. The Bible teaches that people ultimately will give account to God for how they have used what they have been given.

All the blessings we enjoy are divine deposits, committed to our trust on this condition, that they should be dispensed for the benefit of our neighbors. John Calvin

Christian community is based on all being one in Christ and expressing that oneness in a compassionate lifestyle (Romans 12:9-10). It is lived in supporting each other, sharing in working together for others, and giving of time, wealth, and self.

The duty is now emphasized of serving God in the world, in every position in life. Abraham Kuyper

One Episcopalian prayer describes the service of God as "perfect freedom." Those words translate *cui servire, regnare est*, "To serve is to reign." To serve God and others is the highest honor; it is what we were created for.



One thing I know: the only ones among you who will be really happy are those who will have sought and found how to serve. Albert Schweitzer



Previous: Math and Forgiveness
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Next: Math and Giving
What if a math lesson helped stud...

