Teaching Mathematics and Citizenship in Prison Education

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This paper reflects on a cross curricular project in a prison education centre, between Mathematics (maths), Civic, Social and Political Education (CSPE) and Personal and Interpersonal Skills.

Introduction

The City of Dublin Vocational Education Committee (CDVEC) provides an education service to prisons and other places of detention in Dublin City. Programmes are on offer in Arbour Hill, The Dochas Centre (Women's Prison), Mountjoy Male Prison, St. Patrick's Institution (Young Offenders), the Training Unit (Pre-Release) and Wheatfield and Cloverhill. Teachers work both in a whole-time and part-time capacity. A number of publications have been produced based on the work of students and teachers, including a recent book on basic maths. The curriculum offered is varied and designed to meet the needs of the prisoners on an individual and group basis. Course range from:

- Basic education level
- FETAC/Junior Cert/Leaving Cert
- ECDL
- MOS
- Degree level (Open University)
- Literacy and Creative Arts e.g. Art, Music, Drama, Writing etc. (www.cdvec.ie)

The Further Education and Training Awards Council (FETAC) gives people the opportunity to gain recognition for learning in education or training centre, in the work place and in the community, and is the national awarding body for further education and training in Ireland.

FETAC's functions include:

- making and promoting awards
- validating programmes
- monitoring and ensuring the quality of programmes
- determining standards

Learners completing FETAC courses are assured that their standard is the same as that achieved by learners in any educational institution in the state. The tutor is encouraged to apply the same learning to different courses where appropriate. (www.fetac.ie)

The courses referred to in the context of this article, accredited by FETAC, include Mathematics, Personal and Interpersonal Skills. Another course referred to in the course of the article is CSPE.
which is a compulsory subject in mainstream schools at Junior Cycle although optional in prisons.

**Citizenship Education in Ireland**

The CSPE course is structured around four units and seven core concepts:

*The Four Units*
Unit One: the Individual and Citizenship
Unit Two: the Community
Unit Three: the State—Ireland
Unit Four: Ireland and the World

*The Seven Concepts*
Democracy, Rights and Responsibilities, Human Dignity, Interdependence, Development, Law and Stewardship.

Action projects have to centre on at least one of these concepts. The rationale behind CSPE is to prepare learners to become citizens: to be deprived of understanding of how the social and political world actually works is seriously disempowering. The absence of social science education circumscribes people’s choices as political actors in society; when people are ignorant of how social and political institutions actually operate, and of the importance of political engagement and its potential for change they feel alienated and detached from these institutions. This is a real issue for prisoners as they often belong to communities with low participation in elections. They lack not only an understanding but also a sense of ownership of the political process; politics is for somebody else, for “professional” politicians who are in the know. This seriously undermines democracy as it seriously undermines the range of interests and types of people that engage in politics (Lynch 2000). Kathleen Lynch goes on to argue that social and political education is important also to equip people to understand and challenge “widespread media-based assumptions”.

The setting within the Irish Prison Education Service (www.pesireland.org) is outlined in the Strategy statement of the service. Its aim is to provide a high quality, broad and flexible programme of education that meets the needs of those in custody through helping them:

- to cope with their sentence
- achieve personal development
- prepare for life after release
- establish the appetite and capacity for lifelong learning.

Wheatfield is a closed medium security prison in Dublin (www.irishprisons.ie). Clients are adult males, and bed capacity is 372. Classes are offered mornings, afternoons, and some evenings over 11 months of the year. There are training workshops including print, metalwork, block work, laundry. Support services include chaplains, addiction counselling, psychology service, probation & welfare, and bereavement support.
This article outlines some projects where cross curricular mathematics and citizenship education aim to meet some of the above needs and can heighten understanding of both subjects.

**Prisoners and Voting**

The following example shows how citizenship education and mathematics education complement each other. Recently all Irish prisoners won the right to vote, after several years of discussion in the Dail (Irish House of Parliament). Elected representative Fergus O’Dowd in the Dail commented that “It is important our prison system forms part of our reform agenda. It is also important that our criminal justice system is framed with the hope that this measure will in some small part go towards the rehabilitation of prisoners. It is an important social step and democratic reform which will, my party believes, strengthen our electoral process” (O’Dowd, ?Year?).

Elected representative Gay Mitchell… believed that there was not widespread public support for this measure (prisoners voting). However, he assured his Parliamentary colleagues on the opposition benches that we “are not about being soft on criminals …. People not only have rights but they also have responsibilities. It is time to stop recycling prisoners as if they were some sort of commodity and creating an environment in which prisoners have rights but no responsibilities, which takes from their dignity” (Behan and O’Donnell, 2007).

A visiting speaker, Cormac Behan, a CDVEC prison education teacher currently pursuing doctoral studies, gave a workshop in the school to prisoners on voting and empowerment. Subsequently in class some of this data on US elections was analysed mathematically, using pie charts and bar charts and percentages, which showed the patterns of exclusion of convicted felons, the winning margins, and the potential effect on an Irish election of prisoners voting for a candidate who had spent some time imprisoned. The effect was powerful, as learners saw the data presented in a mathematical way, which heightened their awareness and provoked lively discussion. In the process there was a new understanding of statistics and number and also of the importance of individuals claiming their vote. Another exercise based on the workshop was on the breakdown in patterns of registration of voters and subsequent voting patterns in Irish prisons. This served as a lesson in statistics and as a trigger to cause prisoners to reflect on their current rights and responsibilities regarding voting, coming as they mainly do from communities where voting is low.

“Citizenship is about much more than rights, entitlements and obligations. It is about playing a role in the civic life of the community. Citizenship is not about merely giving individuals rights; it is about participation and inclusion. Active participation by citizens, including prisoners, will guarantee these become rights, not privileges dispensed in a paternalistic manner from above. Irish prisoners have been given the opportunity to become politically participative citizens by casting their votes. In other spheres, their citizenship remains qualified. Prisoners have been conferred with some rights of citizenship. And, with those rights comes the burden of responsibility” (Behan and O’Donnell, 2007).

Looking at the maths of voting can serve to raise awareness of the importance of every vote and may help people to realize their responsibilities in this regard, while at the same time offering a very topical and relevant vehicle to promote mathematical concepts. The following United States
data (Behan and O’Donnell, 2007) served to stimulate lively discussions and hopefully some of the above objectives were achieved:

- 13% of total black male population past or present felon excluded from voting in last presidential election
- 1.4 million in total
- 600,000 Floridians disenfranchised
- 537 votes between Bush and Gore
- 1997-2000 16 states restored voting rights, to 620,000
- 2007 numbers disenfranchised due to current or past felony: 5.3 million
- 2.5% of total population
- In 2006, 36 states denied persons on parole and/or probation the right to vote
- In 11 states, a felony conviction can lead to a lifetime ban
- Forty-eight states and the District of Columbia forbid felons to vote while in prison.

The above statistics provide material for mathematics lessons in percentages, number theory and statistics and also for discussion wider issues relating to enfranchisement.

“How I feel today” Bar Chart

Mathematics overlaps with other aspects of the curriculum, for example Personal and Interpersonal Skills. One student was attending the author’s class for both maths and Personal and Interpersonal Skills. During the maths class he expressed that he was finding it hard to concentrate as he had a lot on his mind. As there was a deadline to finish the course and limited time, the decision was made go with the interest of the learner, which were his feelings. Thus we designed a “How I feel today” bar chart”, where the learner listed the feelings he had now, including anger, sadness, joy, excitement and fear. We drew a graph with these feelings on the horizontal and a scale to 10 on the vertical. After consideration, he reflected on his feelings today and marked a place that reflected this on the graph. We agreed to repeat this in the following class to show that feelings are changing all the time, which was an important lesson in emotional literacy. This personal reflection also helped him to meet some of the Specific Learning Objectives of his Personal and Interpersonal Skills portfolio, which were to compile a personal profile, make a personal action plan and keep a learning journal, as well as completing a maths task.

“The Power of One” Action Project

Part of this CSPE is to complete an Action Project that counts for 60% of the total marks, the remainder being the examination. The Action Project can be anything, including a visiting speaker, a piece of research, or art work that fits in to the categories outlined. One student felt strongly about the environment, deprived as he was from the outdoors while incarcerated. He decided to conduct a survey on the potential for recycling within the prison, and determine the attitudes of staff, teachers and prisoners to waste and recycling. He typed up surveys and circulated them, collated the data and presented the findings as a slide show to prisoners and teachers, as bar charts, pie charts, statistics and percentages. This provided a teaching programme for future classes where other students could see the mathematics of citizenship education.

Another example of how citizenship education can be heightened by “mathematicising” the citizenship education facts presented is a workshop by a visiting speaker, Selam Desta, presented
as part of CSPE class on globalization and interdependence. This workshop focused on the myth of meaningful equality of opportunity without equality of condition. Data was presented outlining the inequalities of different ethnic groups in Ireland, travellers’ (an ethnic group in Ireland, like gypsies) specifically, such as life expectancy, time spent in education. The mathematical concepts of less than, equal to and greater than were shown using the examples that travellers’ lifespan is 10 years less than settled people. A class discussion followed on the injustice of these figures yet they were not disputed. Another example is Sudden Infant Death rates: traveller babies’ rate of SID in Ireland is 12 times the national average in Ireland, thus a human tragedy is presented as an algebraic sentence, which was a powerful experience for the class. Other potential activities for maths and citizenship education include defining equality in economics terms, poverty statistics, looking at averages, census figures, and multiples. (Desta, 2008)

The Role of Mathematics in Prison

The role of mathematics education in prisons is an unusual one. Many prisoners returning to education request maths class for different reasons. While there are many reasons for learners taking up maths, some anecdotal reasons could be the distraction from the setting, “Maths can fill your head when you are in the cell” and the joy of the commitment to a course of abstract study, “You miss it when you’re finished a course”. Mathematics can offer an escape into an abstract world, “Poetry can wreck your head, but maths homework in a cell can take you to the zone, it’s better than drugs.” “It will relax you, like crosswords or Sudoku” “You don’t feel the night going when you are doing maths.” People often doubt their ability in maths as they firmly believe due to earlier experiences that they can’t do maths. “I used to think if it’s maths then I can’t do it. Maths is in books, with mad symbols, for brainy people.”

Maths and Inequality

International evidence is overwhelming that the more unequal a society is economically (i.e. in terms of incomes and wealth), the more unequal it is educationally, socially and in health terms (Desta, 2008). Statistics such as those listed below offer many opportunities for joint human rights and maths education.

Fact:

Disabled people are 2.5 times less likely to be employed in Ireland than non-disabled people.

Let’s use this fact to look at some mathematical concepts:

Multiplying decimals

Multiply the following figures by 2.5

1. \(3 \times 2.5 = \)
2. \(300 \times 2.5 = \)
3. \(1000 \times 2.5 = \)
4. \(10.5 \times 2.5 = \)
Algebra

Let $X$ be the number of people out of work in Ireland that are not disabled.

Write an equation to show the total number out of work.

(Desta, 2008)

Research: Prison Basic Education Survey

A recent piece of research provided some data regarding the levels of literacy in prisoners and also in the wider community. The authors, Kett and Morgan, found that 25% of people in the general population scored at Level 1 or below yet for Irish prisoners 52% of respondents scored at this level. As a means to teach percentages and ratio, these statistics have great potential. Elsewhere in the same research study, data from the Dublin Adult Literacy Scheme notes the need to “identify specific strategies for increasing the participation of marginalized men who do not traditionally participate in basic education” (Kett and Morgan, 2004). The targets are long-term unemployed men in Dublin's inner city who find that negative school experiences and embarrassment act as barriers to participation. It also highlights the influence of male culture on decisions not to participate: “Fear of ridicule by other men emerged as a key concern for the study participants. The work place and the pub were identified as sites of fear for many and as environments wherein harsh treatment was expected and a culture of ‘slagging’ prevailed. Some participants suggested that while participation in adult education is acceptable for women, it could sometimes be seen as inappropriate for men (and) the macho self-image may be threatened by participation in education” (Corridan, 2002 in Kett & Morgan). Here the potential for citizenship education is obvious as a gateway subject for men to re-enter the world of adult basic education, without the embarrassing connotations.

The Moral Number Line

The number line can be a difficult concept to teach so one exercise that worked involved “The Moral Number Line.” A point in the classroom was 10 which represented morally bad, while another point represented 1 which was morally good. Questions such as “Are racist jokes bad? Is it wrong to eat meat?” and others were asked and learners placed themselves on the number line according to their views. This provoked discussion on both the concept of the number line and the question content.

Conclusion

Thus mathematics and citizenship education can have great cross-curricular potential; mathematical concepts can be more appealing when applied to another subject such as this, and thus the “mathematization” of the other subject enriches it also.

References


Web Sources


