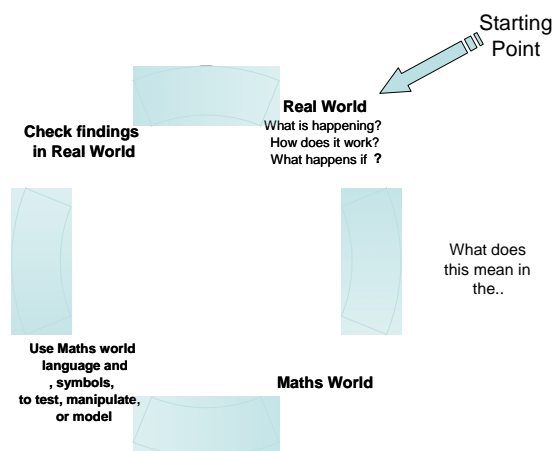


The Real world Maths World Cycle

If tutors are to help learners develop a 'competent use of mathematical language, knowledge and skills, tutors themselves must be able to identify a range of mathematics in everyday living, work etc. Viewing the world from a mathematical perspective entails having a sense of quantity, and an ability to see connections and interdependencies. For most people the mathematics that surrounds them in their daily lives remain 'invisible'. In order to integrate 'numeracy' into a particular context it is necessary to develop 'mathematical eyes' to see the mathematics that is inherent in a lot of what we do every day, especially in sport. Once tutors develop their 'mathematical eyes' tutors will be able to see this 'invisible mathematics' so that they can identify appropriate entry points for introducing numeracy skills and knowledge, that are relevant to the life of the individual learner. When tutors are asked to identify the numeracy in sport they often focus on 'number' or 'data handling' for example scoring systems, betting, records for sporting achievement over time. Other mathematics remains hidden and perhaps not as immediately obvious for example, symmetry, shape, pattern, relationships.

Often in activities using numeracy/ mathematics the starting point for an activity is the rule or formula that must be used to calculate the answer. A central aspect of integrating numeracy is that you start with what is called the real world context and work into the mathematics world (see Figure 1). The mathematics world is a tool to help you understand and explore the real world.

Figure 1 The Real world Maths World cycle



Take for example a football pitch or Basketball court; The group could start by discussing - What do the markings on the surface mean, Why are they needed? Are they all needed, if so, by whom? Where are they on the surface (21yd line, centre point)? How do these markings affect what happens on the pitch/court. What would happen if...? If measuring needs to be done, initially let student use their own strategies don't necessarily introduce units of measurements, metre sticks, or measuring tapes. Learners might use strides. Remember the real world does not necessarily demand pinpoint accuracy, words like around, about, approximately are all acceptable. Encourage estimation this helps to build confidence and number sense. You could start introducing the maths world by asking do pitch/court/pool dimensions have to be exactly a certain size? (Swimming pools if they are to be used in a competition have to be an exact length and width does the swimming pool the learners use meet these strict criteria; How do other sports measure up? Why is this level of accuracy necessary?). Use the mathematical world to interpret the real world to check if our estimations are right. The mathematical world introduces mathematical language to learners only introduce measuring units etc when the task demands the mathematical tool. We can then go back to the real world to make sense of the more detailed information we have got from the maths world which pool are competition pool? What does this mean about their length and width? The relevance of mathematics becomes more apparent, learners develop more understanding.

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