

The Teaching of Navigation Skills (Time for a Review?)

By Nigel
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I imagine that most people reading this magazine teach navigation skills using orienteering games and maps. However I suspect that many young people don't learn to navigate from people who read this magazine. There are around 145,000 young people every year undertaking a bronze DofE expedition and I often wonder who teaches them navigation and how is it taught. I believe we can learn a great deal from the orienteering teaching methodology, the "step system", and using large scale maps. Navigation skills are the same whether a walker or orienteer.

Mapping

Maps were initially created for military purposes and the teaching methodology came from the military using the standard Ordnance Survey 1:50,000 scale map. This methodology seems to be perpetuated in an ad hoc manner with some still teaching how they remember being taught at school or in the uniformed youth organisations perhaps 10 – 20 years ago, so what is changing?

The development in the 1970s of orienteering maps, then at 1:20,000, and now more usually

at 1:10,000 (1cm = 100m) or 1:15,000 scale has revolutionised the teaching of navigation skills for orienteers into a well developed and successful coaching system. It is no coincidence that these methods and maps are providing the UK with world class navigators of all ages.

I firmly believe that the scale of map that is used for teaching all navigation skills has a strong influence on learning outcomes and confidence with map and compass.

Orienteering coaching methods and, crucially, access to maps and local mapped areas ought to be available to the wider recreational and education community. Permanent orienteering courses and the number of orienteering mapped areas in the UK should now mean this can be a reality. Teaching the principles of navigation for walking or orienteering could become a universal methodology. (Access issues aside, although much mapped forestry ground is open to access.)

I am sure many orienteering clubs would willingly sell schools and youth group leaders their maps, it might bring more people to their events. It links with educating outside the

class room and healthy lifestyle issues. I wish to promote only the teaching methodology, walking and learning, rather than running round a course. Orienteering is probably the only sport with books written for teachers on how to integrate it into many aspects of school work at the various key stages or 5 – 14 curriculum in Scotland.

In Scandinavia every school has an orienteering map of their grounds and this is being replicated in parts of the UK. The NNAS scheme mentioned in the 2006 autumn edition successfully links orienteering methods with the needs of hill walkers.

Using an Orienteering Map

Teaching with 1:10,000 scale maps provides great learning, repeated practice and feedback opportunities. Young people seem to relate much better to the scale and maintain concentration better because of the quick and rewarding positive feedback they receive.

- Lots of features can be identified every minute as you walk along a forest track ensuring that the students learn the importance of maintaining contact between the map and the ground.
- Keeping the map set (with or without a compass needle) is instilled because to keep up with all that is happening it has to be correctly orientated.
- An appreciation of scale is grasped quickly as well as the principles of interpretation that the key provides.

A “map walk” with these maps is an excellent teaching and confidence building tool.

A group of learners using an O.S. 1:50,000, or even 1:25,000 map, can easily walk for a mile along a forest track to a junction and identify virtually nothing on the way except that they are in a deciduous or fir forest. The students have probably walked, talked and lost interest for 15 minutes only to see a track junction. This is un-inspirational and a poor use of teaching time.

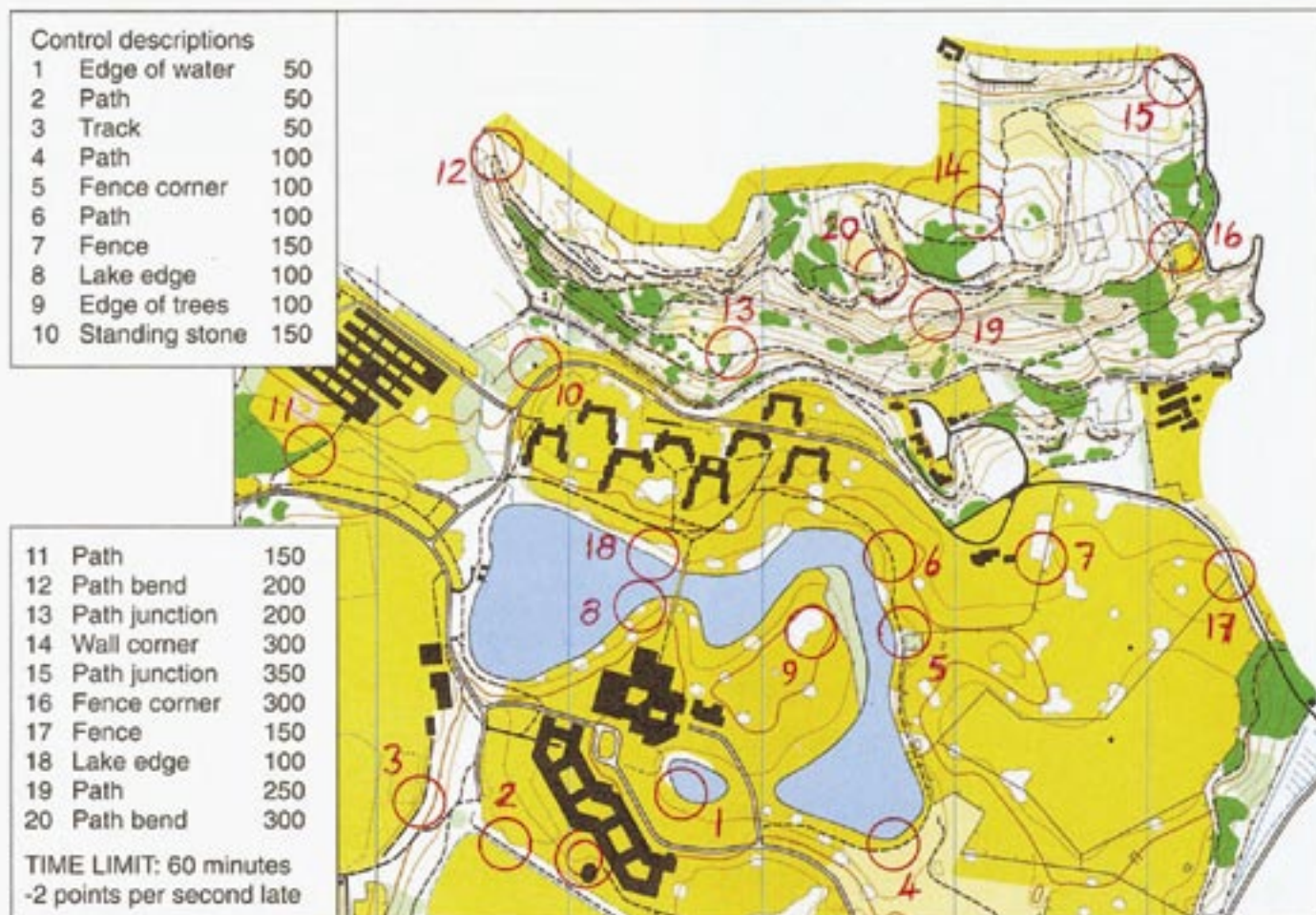


Teaching Practices

An emphasis on quick repetition aids learning and crucially with map and compass work, builds confidence. Having several ways of teaching the same thing to help different learning styles is helpful. Breaking down skills into their component parts and teaching skills appropriate to the objective are all good principles and should be applied to teaching navigation as they are to other subjects. The opportunity to quickly review and have another go follows the learning cycle. However on the hill with a 1:50,000 it is difficult to provide these opportunities. Changing scales is not a problem to a novice and the learning from a large scale map far outweighs any scale changes.

Teaching the Compass and Bearings

Teaching compass work provides an example of some of the issues of teaching navigation. Explaining everything an instrument can do is usually too much information, you just want to know how to do one thing at a time and have a chance to try it out. Recent research suggests that if you introduce the compass needle only, from the start, purely



for map setting, more complex compass skills are better grasped later on as and when they are needed.

Introducing Bearings and Their Context

Consider teaching a bearing across country. It requires great accuracy and confidence, the following skills need to be combined and well practiced:

- taking a bearing off the map & adjust for magnetic variation
- measuring a distance on the map and then on the ground accurately (pacing/timing)
- following a bearing, aiming at things and staying on line
- reading the ground and map as you go whilst staying on the bearing, map memory etc.
- identifying a catching feature in case you overshoot, and if that happens or you fail to identify the feature you are seeking then you may also need some reliable relocation skills.

These need to be taught and practiced in isolation and slowly drawn together as the journeys being undertaken require this level of accurate route finding across country and off paths.

Only once all those things are practiced can some of the strategies such as aiming off, boxing, slope aspect etc. be taught and again all these can be done very effectively on an orienteering map.

Consider the Needs of the Student

For the most part at DoFE bronze level, the student is only likely to need a bearing at a track junction, if map setting doesn't resolve their dilemma. A bearing from the map along the path they plan to go down is all that is needed, the compass should then point down the track they want to take. (Interestingly map scale has nothing to do with teaching this skill.)

With some careful thought the relevant training for the adventure ahead may be quite simple and can be developed in manageable chunks with lots of opportunities for practice and feedback. If you have a well mapped out system of progressions, evaluation and feedback it will help to keep the teaching relevant. Avoid covering lots of clever things that you can do with map and compass but are actually irrelevant for the learner and task to be undertaken. The time can be better used instilling confidence with the basics.

Orienteering and hill walking are different activities but orienteering's progressive teaching methods can be applied very successfully to teaching hill navigation especially for beginners. Orienteering develops confidence with map and compass skills in a relatively safe environment with little real consequence to a mistake. (A mistake on the hill can have quite big consequences and shatter confidence, often there is not an immediate opportunity to have another go.) Progressions from the class room, to the school grounds, to the forest, to the hill provide progression with confidence as the map scale increases. The orienteering teaching "step system" provides the skill development and progressions. Put these two aspects together and you have a powerful way of teaching navigation.

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Photo of maps by Fiona at IOL. Map details:
The 2 orienteering maps are taken from the book "Teaching Orienteering" by McNeill, Cory-Wright and Renfrew, published by HARVEY/Human Kinetics Inc., which publication might be relevant for its own sake.

For more information see:
www.britishorienteering.org.uk
 - Clubs, events coaching courses and lists
 of permanent forest and park courses.

www.harveymaps.co.uk
- Online information and ordering service

