

**The Teaching Council Consultation
Draft Policy on the Continuum of Teacher Education**

Institute of Physics in Ireland Response

February 2011

The Institute of Physics in Ireland (IOPI) is a scientific membership organisation devoted to increasing the understanding and application of physics in both Northern Ireland and the Republic of Ireland. It has over 2000 members, and is part of the Institute of Physics which has a world-wide membership of over 40,000 and is a leading communicator of physics-related science to all audiences, from specialists through to government and the general public. Its publishing company, IOP Publishing, is a world leader in scientific publishing and the electronic dissemination of physics.

The Institute has extensive experience in providing support for the teaching of physics at all levels. It does this through its network of teacher co-ordinators who work closely with the Department of Education to provide ongoing professional career development through workshops, demonstrations, conferences, talks, newsletters and one-to-one support. The IOP also has close contact with providers of initial teacher education in physics both in Ireland and the UK.

From this background of experience in physics teacher education the Institute of Physics in Ireland welcomes the opportunity to submit a response to the Teaching Council consultation on its draft policy on the continuum of teacher education.

The Institute warmly welcomes the aspirations of the Teaching Council's draft policy, particularly in its overall thrust to achieve cohesiveness across all areas and all stages of teacher education. We are confining our comments to those areas which impact on the teaching and learning of physics, a subject of critical importance to the understanding of all science and a significant driver of innovation in areas as diverse as medical technology, energy and communications.

Initial Teacher Education (ITE)

As noted in the Institute's response to the recent Department of Education and Skills consultation on numeracy and literacy, we agree with the recommendation to raise the standard required in mathematics for entry to ITE, This would both increase the numbers of mathematically able students going into teaching and likely act as a driver to raise mathematical standards generally in secondary schools.

In relation to the duration of ITE programmes we agree that the training programme for primary teaching should be increased from three years to four to allow time for the acquisition of key skills in the teaching of literacy and numeracy. However, we would caution against the removal of subject knowledge as also recommended in the plan.

This is particularly important in relation to the teaching of science at primary level since a significant number of trainee teachers may not have taken any science at Leaving Certificate level.

With regard to ITE programmes for post-primary, we agree with the recommendation to increase the duration of the Post Graduate Certificate in Education (PGCE) programme (for those following a consecutive model of teacher education) to a minimum of two years and to extend the four-year concurrent model for initial teacher education for post-primary teachers to a range of academic subjects.

However we note that in Finland, which has consistently shown high achievement in international comparisons of educational standards at school, the standard teacher qualification is at Masters degree level and would recommend that this should be introduced in Ireland also.

Induction - Newly Qualified Teachers

Science teachers have much to learn during their early teaching career. In addition to the development of pedagogical skills common to all teachers, there are health and safety issues to be addressed, new scientific equipment to become familiar with, and the management of practical activities in the classroom/lab to be considered.

Hence the Institute strongly welcomes the proposals to put a formal induction process in place and in particular we recommend that school teachers, who are asked to mentor trainees receive formal training in how to observe and provide appropriate feedback and how to support and mentor students generally. The skills required are quite different from those involved in teaching children and teacher mentors therefore require specific training.

Continuing Professional Development (CPD)

As noted by in the draft plan, Continuing Professional Development is an essential element throughout a teaching career.

The Institute of Physics provides many activities in this area including twilight meetings, day conferences, workshops, newsletters, email bulletins. The IOP also runs CPD in schools and tailors it to the needs of the school. Such work is highly valued by physics teachers. The combination of lectures, hands-on workshops and opportunities for networking with other practitioners are popular and very well attended and regularly receive very good evaluations.

However CPD budgets are not adequately protected in schools and the consequent lack of funding can restrict access.

It is also essential that CPD courses for teachers are adequately assessed, evaluated and quality assured.

In addition there needs to be a system of incentives and clear progression routes in education/pedagogy, e.g. to become chartered teachers, master teachers, etc.

E.g from UK CPD Levels for Teachers

Level 1	Starting	Learning the principles
Level 2	Newly-qualified	Putting principles into practice
Level 3	Developing	Building confidence and skills
Level 4	Proficient	Demonstrating confidence, experience and reflection
Level 5	Advanced	Exemplifying good practice
Level 6	Specialist	Leading and advising

Out-of-field teaching

According to research by the ASTI, around 60% of all Junior Certificate Science teachers are also Leaving Certificate Biology Teachers. This suggests that physics in the earlier school years is not being taught by a specialist physics teacher. With relatively small numbers of students taking physics at third level and reflecting trends experienced in the UK, it is likely that that such situations of out of field teaching will increase at all levels throughout schools. Given the fundamental importance of physics to all sciences and its role in innovation and the economy, the Institute is calling for significant resources to be put towards the adequate training and updating of out-of-field teachers in physics.

The Institute of Physics in Ireland would be very pleased to continue to work with the Department of Education and Skills and other bodies to help provide support and training to teachers at all levels and throughout their professional development.

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