

Developing a curriculum for type 1 diabetes education

Joan Everett

To many nurses, a curriculum is firmly associated with academia or teaching. However, with the publication of national guidelines for structured diabetes education, what a curriculum is and what it can do has had a marked impact on the work of DSNs. It is the aim of this article to describe some of the progress and discoveries made by Joan Everett in her journey to bring structured health education to people with type 1 diabetes.

When the Department of Health's (DoH) strategy for diabetes care was communicated in the *National Service Framework for Diabetes: Standards* (DoH, 2001) healthcare professionals were given the first national recommendation for structured education in supporting diabetes self-management:

'People with diabetes should receive a service which supports them in managing their diabetes and helps them adopt and maintain a healthy lifestyle.'

In 2002 the Dose Adjustment For Normal Eating (DAFNE) Study Group published their first paper, which generated a lot of publicity and interest in structured education for type 1 diabetes (DAFNE Study Group, 2002). Following this in 2003, the National Institute for Health and Clinical Excellence (NICE) issued guidance that recommended that:

'Structured patient education is made available to all people with diabetes at the time of initial diagnosis and then as required on an ongoing basis, based on a formal, regular assessment of needs.' (NICE, 2002)

The key criteria this publication identified that diabetes patient education should have were:

- a patient-centred philosophy
- a written curriculum
- trained educators
- quality assurance
- audit.

However, it was in May 1999, four years before the NICE guidance, that the author visited and observed a five-day inpatient intensified insulin treatment and teaching programme in Düsseldorf, Germany (described in Muhlhauser et al, 1998). The Bournemouth Diabetes Team were grateful to their Düsseldorf peers, headed by Dr Michael Berger, for translating their aims and objectives into English – this enabled the Bournemouth team to use them as a base for their new education programme. The two important changes introduced by the UK team were that the new programme would be for outpatients instead of inpatients and would take place one day a week over four weeks rather than in a five day block.

The pilot programme began in Bournemouth in May 1998. Detailed aims and objectives had been created for each session. This pilot served to investigate whether such an approach could work in UK practice – the results were so

Article points

1. The Department of Health and the National Institute for Health and Clinical Excellence have described the need for structured education for people with diabetes that incorporates a written curriculum
2. Using resources such as other education initiatives (for example, DAFNE and the Type 1 Diabetes Education network) it is possible for diabetes teams to develop their own diabetes education curriculum.
3. Curriculum development should involve identifying a philosophy, learning theory, learning outcomes, educator and participant activities and the resources required.

Key words

- Diabetes education
- Curriculum development

Joan Everett is a Diabetes Nurse Specialist at the Bournemouth Diabetes and Endocrine Centre, Royal Bournemouth Hospital.

Page points

1. In developing a curriculum, all members of the healthcare team who have a responsibility for or involvement in patient education should be involved.
2. The Type 1 Diabetes Education Network (T1EN) is an important resource for teams looking to establish their own education programmes and offers support and advice.
3. T1EN recommends that in developing a curriculum the following should be identified: a philosophy, a learning theory, learning outcomes, educator and participant activities and the resources required.
4. Philosophies should always aim to be coherent and consistent.

overwhelmingly positive that it quickly became part of routine care in Bournemouth Diabetes and Endocrine Centre. As the number of programmes increased, each one was evaluated by both the participants and professionals involved and changes were made on the basis of this feedback.

To provide high quality patient education, any programme, including type 1 or type 2 diabetes education, pump training, conversion to insulin and lifestyle education, should have a curriculum. However, the Bournemouth team had not yet created the kind of curriculum specified by NICE. So what is a curriculum? What should it contain? Why have one at all? Is it just a piece of paper allowing us the satisfaction of ticking another box?

Writing a curriculum

It is easy to be put off such a task after a glance at documents such as the DAFNE or DESMOND curriculum manuals (for more information see www.desmond-project.org.uk [accessed 10.02.07]). The key piece of logic, in the author's experience, is to write the curriculum based upon practical experience of running a structured education programme. The Bournemouth team already knew what they were teaching was effective, thus allowing their curriculum to be written retrospectively, based on their knowledge and experiences.

All members of the multidisciplinary team who have a role in delivering the education programme should be involved in curriculum development. It is a team effort that works best if the person leading the session draws up the first draft of the curriculum and then circulates it to the rest of the team.

A helping hand

The Type 1 Education Network (T1EN) is a collaboration of diabetes centres involved in providing structured type 1 diabetes education. The NICE and DoH guidelines mentioned earlier have focused the network on helping diabetes centres meet their guidelines.

During May and November 2006, the T1EN conducted a series of meetings which identified that developing a curriculum should involve the following stages.

- Step 1: Identify a philosophy.
- Step 2: Identify a learning theory.
- Step 3: Identify learning outcomes or opportunities for each session.
- Step 4: Identify the educator activity.
- Step 5: Identify the participant activity.
- Step 6: Identify the resources needed.

Step 1: Philosophy

Philosophy – what is it? The dictionary defines it as a belief, a way of life, as well as attitude and values. Chas Skinner, a health psychologist, discussed philosophy at the T1EN meeting in May 2006 and described everyone as having a philosophy, reasoning that this is the driver behind our emotions, behaviour and decisions.

By identifying a philosophy we are able to:

- understand what we say and do
- understand why others do what they do
- work towards common goals.

The trouble is, most philosophies are worked out for us and handed over ready-made. Chas said that you cannot have a philosophy that is wrong, bad, good, right, better or worse than any other, but you can have philosophies which are incoherent and inconsistent. For example, in a written summary of an education programme recently reviewed by the author, it was obvious to any observer that the programme did not match or reflect the written philosophy submitted alongside it. Such inaccuracies can be avoided if we identify our philosophy for type 1 diabetes education by discussing specific case histories and by addressing the following questions.

- What does this patient have a right to expect from me?
- What is my purpose as a healthcare professional for this patient?
- How do I know if I have succeeded with this patient?
- How will I know if I have failed this patient?

The T1EN meeting at which Chas spoke was attended by 60 people who worked through these questions to establish a consensus philosophy (*Box 1*). This group included members from the Bournemouth team who had already gone some way in developing their diabetes education programme. Thus, it was this

team who took ownership of this bottom-up approach in order to progress their curriculum development on to the next step – learning theory.

Step 2: Learning theory

At the same 2006 TIEN meeting, Chas also discussed learning theories. He explained how a theory is a set of statements that allow explanation, prediction and control of events. Similar to the differences between philosophies, he stated that there is no evidence for one theory of learning being any better than the next: the most important thing is to have one and to understand it!

One of the learning theories reviewed in-depth was the Social Cognitive or Learning Theory (Bandura, 1982). This is the most commonly used theory and describes the way in which people become confident in self managing their diabetes and in their abilities to make changes to their behaviour. It has four components, detailed below.

Mastery experience

This is learning by experimentation and observing the response. An example of this is using an insulin dose:carbohydrate ratio and measuring the effect on blood glucose levels. The Bournemouth team incorporated this into their programme by having participants share lunch together – this allows them to experiment with their insulin:carbohydrate ratio and learn from the outcomes.

Vicarious experience (role modelling)

Group problem solving is used to allow individuals to learn from the experiences of others. For example, when a participant shares the experience of having a hypoglycaemic episode at night the group environment facilitates members to change their own behaviour by positive identification with someone perceived to be in the same situation.

Verbal persuasion (action planning)

Here, the facilitator helps participants to identify their own issues and find their own solutions by asking appropriate questions rather than telling them what to do. Together they formulate an

Box 1. Education network philosophy adopted by the Type 1 Education Network Steering Group, July 2006.

Type 1 diabetes is a complex condition, which is affected by and can affect almost all daily activities. Most day-to-day decisions (e.g. the taking of insulin, food choices, activity levels), which affect blood glucose levels, are made by the person with diabetes. As such, people with diabetes are responsible for managing their condition (unless due to mental disability they are unable to make informed decisions).

People with type 1 diabetes require knowledge and skills to enable them to understand the effects of lifestyle on their diabetes and vice versa, and how they can manipulate their treatment to enable them to lead the lifestyle of their choice while maintaining stable blood glucose control. They also need information on the consequences of poor control of their diabetes so they can make informed choices in setting appropriate personal goals for the management of their diabetes

The role of the healthcare professional is to provide support to people with type 1 diabetes to enable them to develop realistic short term and long-term management goals and to help them acquire the knowledge and skills necessary to achieve those goals.

The person with diabetes has the right to expect the following from their healthcare professional.

- The development of an open, honest and non-hierarchical relationship with the person with diabetes.
- An approach which treats the person as an individual, which is respectful of their health beliefs and which is supportive, consistent, and non-judgemental.
- An opportunity to identify and review the person's needs, concerns and goals.
- The provision of up to date, accurate and consistent information about diabetes, treatment options and local services (e.g. education programmes) available, in order to address their needs and concerns and help meet their goals.

The healthcare professional will achieve this by:

- engaging with the person with diabetes and gaining their trust.
- identifying and exploring their current health beliefs and factors which motivate current self-care behaviours
- helping the person to explore and understand the risks and benefits of their current situation and management choices and of any alternative options
- providing appropriate information to support decision making
- providing (or providing access to) knowledge and skills needed to achieve self-care behaviour appropriate to that decision.

action plan that can be reviewed with the group the following week.

Emotion management

The facilitator helps participants identify and explain the emotions of a participant by relating them to their condition. For example, the facilitator may ask 'what worries you about running your blood glucose at that level?' in order to uncover why some people choose to keep their blood glucose level high – often through fear of hypoglycaemia. By elucidating the reasons for this emotion, the fear can be dealt with and behaviour change can occur.

Page points

1. Learning theories are a set of statements that allow explanation, prediction and control of events.
2. The components of the Social Cognitive or Learning Theory are: mastery experience; vicarious experience; verbal persuasion; and emotion management.

Page points

1. Observing other educators allowed the author to identify the learning outcomes for each education session and the educator and participant activities in her own curriculum.
2. While lesson plans provide a guideline and reference for education programmes, a written curriculum provides a document which can be peer reviewed and can undergo quality assurance.

Step 3: Identifying learning outcomes for each session

Lesson planning had been learnt by the Bournemouth team when they participated in a DAFNE educator programme in 2002. These lesson plans then needed expanding to consider each separate session and specifically define what the learning opportunities were.

Steps 4 and 5: Identifying the educator and participant activity

As this had not been looked at before by the Bournemouth team, the most obvious way forward was to observe other team members delivering their programme. Although this was time consuming and laborious, it was useful for the author to describe both the educator and participant activities and incorporate them into the new curriculum.

Step 6: Identify resources

This was identified from above steps and was as simple as listing everything that was needed to deliver the programme, for example food diaries for each group member and an overhead projector for the meetings.

Conclusion

Writing a curriculum is a time consuming and repetitive task but does get easier the more

you do. Thus, the author would encourage readers to try this themselves – after all, by the above principles no-one can say it is wrong! If you are delivering education you need a lesson plan as a guideline and reference but a written curriculum for peer review and quality assurance. *Table 1* shows an extract from the type 1 diabetes patient education curriculum developed by the author and her team. The curriculum provides structure for the professional to deliver high quality education and means that others can deliver it at short notice in times of sickness or holiday. ■

Bandura A (1982) The assessment and predictive generality of self-percepts of efficacy. *Journal of Behavior Therapy and Experimental Psychiatry* **13**: 195–9
 DAFNE Study Group (2002) Training in flexible, intensive insulin management to enable dietary freedom in people with type 1 diabetes: dose adjustment for normal eating (DAFNE) randomised controlled trial. *BMJ* **325**: 746
 Department of Health (2000) *National Service Framework for Diabetes: Standards*. Department of Health, London
 Muhlhauser I, Overmann H, Bender R et al (1998) Social status and the quality of care for adult people with type I (insulin-dependent) diabetes mellitus – a population-based study. *Diabetologia* **41**: 1139–50
 National Institute of Clinical Excellence (2003) *Guidance on the Use of Patient-Education Models for Diabetes: Technical Appraisal 60*. London: National Institute for Health and Clinical Excellence

For more information about T1EN please contact Helen Loughnane at: Helen.Loughnane@elht.nhs.uk or visit <http://www.diabetes.nhs/downloads/Type1Education-Network.pdf>

Table 1. Extract from a type 1 diabetes patient education curriculum				
Topic:	Feedback and insulin dose adjustment			
Process:	The educators and participants will review the food diaries completed by participants for three consecutive days during previous week. The participants will have recorded their blood glucose values, insulin doses, amount of carbohydrate eaten and comments on acetates. The participants will take turns to talk through their experiences by showing acetates on slide projector for everyone to see. The educators will encourage the participants to reflect on their self management decisions and consider whether any changes need to be made in order to reach their personal goals. The educators will provide positive feedback and facilitate participation, discussion and comments to encourage self-management skills. Two educators should be present: one to focus on communicating with participants and the other to look at specific details on the acetates and observe the group's reaction.			
Theory:	Social Cognitive Theory (Bandura, 1982).			
Time allocation:	60 minutes.			
Specific aspects of theory	Learning outcomes and opportunities	Educator activity	Participant activity	Resources
Verbal persuasion, role modelling and mastery experience.	To understand how the session will benefit them.	Educator will explain the process of feedback and that the participants will be focusing on amount of long acting insulin needed, insulin to carbohydrate ratios and the appropriateness of correction doses used.	Each person will have their completed food diaries on acetates.	Overhead projector. Acetates. Food diaries.