University of Huddersfield In-Service

Postgraduate Certificate in Education

DHE 6220 - Advanced Studies in

Curriculum Development

Curriculum Development of the BTEC National Diploma Modules

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1. Abstract

This report investigates the concepts of curriculum development and comprises of two distinct sections. The first section explores the theories of curriculum development and relates these theories to the development of two modul es on the BTEC National Diploma Information Technology Practitioners (ITP) second year course, which I am in the process of developing and covers the following elements:

- Curriculum concepts, influences and rationale for the development.
- A critique of the policy context and issues and principles related to curriculum evaluation.
- The processes involved in the curriculum development work.
- Evaluation of curriculum development and the opportunity to encompass literacy and numeracy within the content.

The second part of the report states the rationale for the development of curriculum, an evaluation and reflection of the learning process and makes reference to the appendices which include copies of Unit Specifications, Schemes of Work, Handouts and PowerPoint P resentations and assessment materials.

2. Table of Contents

3. Terms of Reference

This report is intended to satisfy the requirements of an assignment that has been set as part of a Huddersfield University In-Service PGCE in Education and will focus on curriculum concepts and the major influences that have shaped the way the curriculum is developed particularly within the FE sector at Wakefield College. The report will be divided into two distinct sections, the first exploring the concepts and theories and the second part the actual curriculum deve lopment of two BTEC National Diploma in IT modules. Overall the report will explore the following areas in detail:

- Curriculum concepts and influences.
- Issues and principles related to curriculum evaluation.
- Examples of practical curriculum development wor k.
- Evaluation of curriculum development and the opportunity to encompass literacy and numeracy within the content.

The second section will include actual curriculum development and a reflection on the learning that takes place.

4. Curriculum Development of the BTEC National Diploma modules

4.1 Section 1 Concepts and theories of curriculum development (2000 words) 2112

4.1.1 Introduction

Curriculum development within the FE environment at Wakefield College is chiefly concerned with developing courses that will realise the potential of learners in accordance with the college mission statement. The curriculum, simply defined as *" The planned experiences offered to the learner under the guidance of the school",*   (Wheeler, 1997) is instrumental in planning cour ses at Wakefield College and can often be considered as comprising of the following eight main components:

- Identifying and analysing need
- Stating course aims and objectives
- Selecting course materials
- Design teaching and learning strategies
- Structuring the curriculum
- Assessment
- Planning resources
- Evaluation

Curriculum development is often viewed as lifecycle, it is an ongoing and iterative process/product event, which is continually tracked, monitored and evaluated, and results fed back into the cycle. Curriculum development is widely viewed as either a process or a product. The process model invariably is student centred and explores the way student can be facilitated in the learning process, in other words *"enables us to focus attention on developing the understanding of the pupil rather than delivery of predetermined content"* (Kelly, 2004). Whereas the product model attempts to achieve certain objectives and is linked to changes that take place in the student's behaviour. Although curriculum has just bee n described as a product or process there are two other recognised approaches to such curriculum development. Firstly, some see curriculum as a transmission of knowledge, whilst others describe it as a praxis, a development of the process model but linked to specific values. In reality the definition of curriculum that best describes my development work is the product model, *"A programme of activities (by teacher and pupils) designed so that pupils will attain as far as possible certain educational and othe r schooling ends or objectives"* (Grundy, 1987)

4.1.2 Influences on Curriculum

Until quite recently legislation Government legislation focused primarily on structure and provision of education but until the 1970's there was very little attention paid to t he curriculum. This was mainly left to the educationalists themselves to decide upon. However possibly due to the massive technological advances and concern from employers about the future workforce the Government has recently put curriculum development on its agenda and as a consequence the and the 1988 Education Act and the '14 -19 White Paper Routes To Success For All' report now addresses many of these issues. Some of the key issues addressed were the low numbers of post 16 participating in FE, re -engagement of the disaffected and strategies to stretch all young people. Another important issue the Act looked at addressing was to equip students with a

combination of technical skills, academic knowledge, and transferable skills that employers are increasingly demanding. In particular the embedding of key skills into curriculum development is proving fundamental if we are going to meet the needs of employers by equipping people with good communication and numeracy skills alongside their IT expertise . This legislation alongside other direct influences such as the Skills for Life initiative play an increasingly important role in curriculum development. Furthermore t he continual need to work with businesses was emphasised as a key issue in the recent Foster repor t which stated that *"the values of greater clarity, improved leadership, organisation and management and a relentless focus on the needs of learners and businesses as the criteria for progress."* (Foster, 2005)

4.1.3 Rationale for development

Wakefield College's main aim is to the enable students to achieve their potential through a wide and varied access policy to education and specifically offers students the opportunity to achieve the BTEC national diploma in IT. Progression to Higher Education (HE) at W akefield is achieved through access to the HND courses, and can then lead to the Degree course in computing that is run in partnership with Sunderland University. The development of the curriculum is therefore aimed at meeting the following college object ives:

Address shortages of skills in the national and regional economies.
Enhance student's employability.
Widen participation in Further and higher education and contribute to lifelong learning.

4.1.4 Policy Issues in Post -compulsory Education

Globally and nationally the advent of Information Technology and a knowledge hungry society offers enormous opportunities to improve the quality of life and enhance our national prosperity. Therefore in order to take advantage of these opportunities, there is a gro wing need to educate and prepare the next generation with the skills needed to ensure that this country maintains it competitive edge. It is vital that we provide the appropriate education and training particularly on areas that are already in short supply . Evidence produced by the National Skills Task Force shows that one of the sectors likely to experience the greatest demand for these skills are is IT. With this in mind the computing faculty at Wakefield College continues to provide a wide variety of IT courses aimed at meeting these needs. Over the last couple of years much work has been undertaken to explore the education and employment needs of the local community consequently the BTEC National Diploma in IT was introduced in September 2004 in order to provide a specialist work-related qualification. The overall aim of the qualification is to prepare IT students for employment within the IT sector. The qualification is linked to the National Occupational Standards for the sector where these are appropri ate and are supported by the relevant National Training Organisations (NTOs) or Sector Skills Council (SSC). On successful completion of these qualifications, learners may progress into or within employment and/or continue their study in the vocational area.

In the broader context other Government legislation that is a major influence on education within FE, is the 1992 decision that was made by the Further Education Funding Council to fund only the adult educational courses that led to recognised qualific ations consequently meaning that FE is more focused on vocational skills, basic skills and other such like accredited courses. The popularity of these vocational among the post 16 population has led to the development of courses such as Advanced Vocational Certificate of Education (AVCE) now replaced by the Applied GCE and in particular the BTEC Nationals for IT Practitioners has meant that a great deal of curriculum development work is being undertaken. Specifically in the areas of Computing and IT Systems and the focus is on:

- education and training IT practitioners for employment in a variety of types of technical work, such as systems support, analysis and design, software testing, network administration, education and training, etc
- providing opportunities for IT practitioners to achieve a nationally recognised level vocationally specific qualification
- providing opportunities for full-time learners to gain a nationally recognised vocationally specific qualification to enter employment as an IT practitioner or progress to higher education vocational qualifications such as BTEC Higher National Diploma in Computing or IT Practitioners and BSC in computing via Sunderland University
- developing the knowledge, understanding and skills of learners from an IT practitioner's viewpoint
- embedding key skills in curriculum

Further education establishments that predominantly offer these vocational qualifications widely recognise the fact that cultural differences within our society can greatly impact on the curriculum. And, although the 1944 Education Act went some way in addressing the problems of a two tier education system, problems still exist *"the educational problem is a combination of curriculum planning and changing some teachers' attitudes and behaviour towards their pupils."* (Lawton, 1975, p52) In effect the view was that those of high intelligence were to be educated to be leaders whereas the rest of society would be trained to accept the conditions and rules that where decided upon by the leaders. Curriculum differentiation sanctioned this practice as substantiated by Professor of Curriculum and Instruction and Educational Policy Studies *"Curriculum differentiation would fulfil two social purposes – education for leadership and education for what they called 'followership'"* (Apple, 1990, p.75)

4.1.5 Philosophy for curriculum development

The BTEC ITP course has been designed to meet the need for IT Practitioners in the field of specifying, installing and maintaining computer systems to satisfy the IT needs of a broad range of organisations. Work of this nature will require both skills in and understanding of the process of analysing IT requirements, specifying systems, designing systems to meet user needs, and, installing, maintaining and extending existing systems. Students successfully completing this course would typically be suited for employment in network installation, maintenance and support, as well as for employment in IT help desk roles and IT management roles. Equally successful students would gain access to study at a further or higher level. The overall aim of the course is:

- To prepare students for work who are capable of planning, designing, implementing and maintaining computer systems.
- To enable students to understand the basic hardware and software concepts of modern computing systems and networks.
- To equip students with the skills to enable them to specify the design and implementation of modern computer-based information systems.
- To give students an understanding of the role modern computer-based information systems play in supporting business success.

4.1.6 Processes for curriculum development

It is recognised that BTEC qualifications are vocational and are aimed at preparing students for the workplace therefore the process for curriculum dev elopment must take into account that the emphasis is on developing the skills of the learner. This can be quite difficult, as especially where "teachers *accustomed to 'leading from the front' have to change to a more student centred approach"* (Huddlestone and Unwin, 2004, p.62) As the BTEC qualification comprises of 16 units, each with its own unit specification (see Appendix A) it is the modular approach to curriculum development that has been undertaken. The aims and objectives of the unit specification have been scrutinised and relevant knowledge concepts and practical tasks have been devised in order to demonstrate theories and to reinforce learning and understanding. The modular curriculum can be described *"A free standing unit of learning, which may b e linked with others to form a coherent programme, each module has specified title, aims and objectives, knowledge concepts, skills and attitudes, teaching and learning styles, assessment methods"* (Watkins, 1987, p.18). This type of model is much appropria te than either the 'Linear Model' which is the one seen in the national curriculum and allows learners to progress from one objective to another often over the course of years. It is also more appropriate than the Spiral Curriculum suggested by Bruner who recognised that learning should be constantly revisited and always being improved upon.

"When structuring the teaching and learning programme, early communication of the purpose and value of the course and it's activities should be planned" (Walklin, 19 90, p.111) It is with this in mind that the curriculum components that are relevant to the delivery of the BTEC course have been developed. These materials can be found in the Appendices and are as follows:

Appendix A - Unit specification, aims and object ives
Appendix B - Teaching and learning strategies i.e. schemes of work
Appendix C - Teaching and learning strategies i.e. lesson plans
Appendix D - Teaching and learning strategies i.e. learning materials
Appendix E – Teaching and learning strategies i.e. PowerPoints
Appendix F – Teaching and learning strategies i.e. Course handouts
Appendix G – Assessment guidelines and strategies -Assignments
Appendix H - Assessment guidelines and strategies – Assignment tracking sheets

The available resources are compu ters in computer rooms, Smart boards and appropriate software.

4.1.7 Literacy and numeracy development

Having recently attended a 2 day conference in Birmingham on 'Student Employability' I am fully aware of the needs to embed Key skills such a numeracy and literacy within the curriculum that is being developed for the BTEC National Diploma course. The key issues that employers raised was that skills such as communication, team work, problem solving were more highly rated than technical knowledge or spec ific subject knowledge. The Government initiated Key skills stage 1,2 and 3 and offers financial incentives to schools and colleges for delivery within their curriculum. At Wakefield College key skills is timetabled for all 14 -19 year old full time courses and students sign a contract agreeing to attend as part of their course. The aim is to ensure all students have the basic skills in literacy and numeracy when they leave college in order they are able to fulfil their role in society. "*Educational failur e is underpinned by poor reading and lies at the heart of social exclusion*" (Bynner, 2002)

4.1.8 Evaluation of curriculum development

Once a curriculum has been developed it is of utmost importance to evaluate it's success. One of the main ways is to anal yse performance figures to determine if they meet their targets by checking if the assessment results are satisfactory. Another useful way is to reflect at end of each session as to what worked well and what could do with further development. On a personal   note this is not always easy as invariably as soon as one lesson has finished another starts, often on a completely different subject matter, and by the time the an opportunity to reflect and tweak the work arises the issues are no longer fresh in the min d.

4.2 Section 2 Curriculum development of BTEC National Diploma modules (1500 words)

4.2.1 Curriculum Development

Wakefield College provides provision for both FE and HE however as I am mainly involved in the FE sector this is where the focus of the cu rriculum development lies. One of the key aims on the BTEC course is to offer all students on the course the opportunity to realise their potential which often presents a great challenge especially in this day of high expectations as is substantiated by Light (2002) who claims *"We demand greater flexibility and imagination in educating for the future and want our students to develop learning skills and the ability to transfer what is learned to new and more complex situations"*

In line with the college's mi ssion statement and as Personal Tutor to students on the Business and Technology Education Council (BTEC) National Diploma Information Technology Practitioners (ITP) course I am in the process of developing the curriculum for delivery these 17 - 22 year old students. Vocational courses are a relatively new government initiative and offer post 16 year olds and alternative to A and As level qualification in specific subjects such as science, arts etc that are taken by the majority of school sixth form students. The vocational qualification is viewed as more practical and work related. *"The emphasis is on the application of knowledge to realistic business or working environments rather than purely on understanding theoretical concepts"* (Abbott and Huddlestone, 1995, p6)

The BTEC students are timetabled with me for the integrated vocational award in business IT project and database management systems (DBMS) are on their second year having already achieved passes in the 8 units that were delivered on the first y ear. They have now to complete a further 8 units. The 2 units I am currently developing, run over 16 weeks, the one 3 hour and one 2 hour session per each week, comprise of lectures, practical exercises and assignment work. As this is a new course at Wakef ield College I will have the opportunity to see first hand how well the curriculum delivered and the assessment tools deployed, are taken on board throughout the learning process. In the early stages the focus is on delivery of learning materials whereas t he latter part of the semester concentrates on assessments which are initially very specific and quantifiable and measure lower cognitive skills however as students progress, assessment is more concerning evaluation and critical analysis therefore assessin g the higher cognitive skills.

4.2.2 Content

The content of units are designed to meet the requirements of the unit 9 and unit 13 Edexcel specification as shown in appendix A. The content covers all the topics listed in the indicative content and is main ly found in books and journal and brought together in hand outs and PowerPoints and activities. *"The content is designed to address the reasons identified for developing the curriculum in the first place."* (Anon 1, 2000)

4.2.3 Teaching and learning strat egies

The teaching and learning methods used are varied and are listed in the scheme of work as shown in Appendix B. The scheme of work also clearly states the structure of the course with start time and hand in and out dates for assignments. The curriclu m also incorporates the use of the Internet, books and journals for research and software applications for both development of information systems and communications as well as for reporting on the practical elements of the

course and evaluating their outc omes. Group work and discussion is also an integral part of the curriculum. The main approach to content delivery is via lesson planning see Appendix C, PowerPoint presentations see Appendix E, and Course handouts see Appendix F

4.2.4 Assessment strategie s

There is a clear outline of assessment strategies that are mapped to the learning outcomes. I have written the assignments in line with the awarding body learning outcomes/objectives as shown in Appendix G. The chosen assessment methods are made up of pr actical assessment, assignments based on a case study, reports, presentations and research papers. It is also important to track the work of students and for this I always have an electronic copy of an assignment-tracking sheet see Appendix H.

4.2.5 Reso urces

The resources within the college include computers in computer rooms, Smart boards and appropriate software. Most staff teaching on the course are well trained and highly qualified although due to staff sickness and turnover there are times when the level of expertise is lacking in certain areas.

4.2.6 Evaluation

The effectiveness of the curriculum will be monitored by continually tracking the progress of the students see the tracking documents in Appendix H and also by the records of achievement compared over a period of time. As this is the first time the course has been delivered there is no historic data to compare previous years success, however there will be bench marking undertaken with other FE colleges and schools. Secondly as personal tutor I am responsible for tracking how well targets are met throughout the year and at three specific milestones individual learning plans (ILP) are completed with students to discuss their progression. These statistics are then aggregated and forwarded to the team leader for college wide collation and circulation. These milestones are set to monitor attendance, punctuality, achievements and progression.

4.2.7 Reflective Analysis and Evaluation of Curriculum Development

The curriculum is not centrally organise d but individual tutors take the responsibility of developing the units they are timetabled to deliver. This sort of curriculum development is generally delegated to experienced staff and those that are willing to take on the heavy workload. Much of this development is actually undertaken in the tutor's own time the desk duty hours are often taken up sorting out day -to-day problems and covering for other staff sickness and absences.

In the instance of the development work included for this assignment ther e are no formal external exams but within the scheme of work short recap quizzes are used to check that learning has taken place. The unit however is externally marked and as the one I am delivering is the only one that is externally marked then there is m ore pressure to get things right. For this reason I am being sent on a one day course in Manchester to try to understand the awarding body's requirements of marking the units.

As I am in the process of embedding key skills level 2 and level 3 into the BTE C assessment process I am working closely with the Keys skills tutor to build up a port folio work for key skills assessment.

The key points from a PGCE observation process was to chunk the sessions more so that students are more likely to be kept on track and spend more time at the beginning of each session recapping on the previous learning and consider different techniques for recapping i.e. question and answer verbal and written. This I am trying to incorporate into the weekly lesson plans but I often find that the massive volume of work (I am also developing 3 other units) means that I often feel that I still do not do this enough as it takes longer to develop new strategies rather than stick with those I have used before.

There is a fixed scheme of work that demonstrates the planned student learning although this is flexible and on several occasions has been changed to meet the requirements of the students.

The BTEC group consists of 14 students, who are on the whole show little sign of having littl e self motivation and are sometimes slow to respond. Individual questioning shows some students were either reluctant to answer, were unsure or had failed to grasps the concepts. I feel that in future I must develop new and varied ways of recapping particu larly after a break, maybe stressing at the previous session there will be a short question and answer session on the first session back which, may motivate students to be more prepared.

As some students have struggled to learn the software I have tried to demonstrate specific elements of the applications by demonstrating to the whole class whilst at the same the students used the software application themselves. Demonstrating software is not always my strong point as sometimes I feel I am concentrating too much on navigating the software that I loose the student's attention. This I have overcome in some sessions by requesting a student to work the keyboard whilst I instruct. However in some sessions I have managed to demonstrate without a student helping and it has gone reasonably well with students maintaining their interest.

I feel the overall the curriculum has been well prepared and includes varied learning materials, good individual student support and encouragement, good differentiation between thos e lagging behind and the students who finished quickly by introducing them to more complex features of the software and tasks.

Generally students at AVCE level do require a great deal of help and support with only a very small minority displaying any inde pendent learning skills. In this particular group there are three or four students who are competent with their assignment work but I do like to take time out with these students to share with them complexities of the subject matter and discuss how they ca n improve on the analysis and evaluation of the HCI they have developed.

The PowerPoint I delivered and the handouts I have created been well received although mainly students have preferred I preferred to access the information on 'Blackboard' so I never insist they take away a hard copy (save the trees!!) Blackboard also helps student work from home, they can log on and check if they have missed anything if they have been absent or recap on the learning that has taken place.

Overall the curriculum devel opment has been a valuable experience and has made me understand how much work has to be put in to deliver a good session and to meet the unit objectives and the learning outcomes. On average the amount of preparation I need to undertake in order to plan, research and put together learning materials for a 2 -hour session is more than eight hours. This has then to be multiplied up, over usually 16 weeks that the course runs. As we do not have the luxury of having spare time to do this in college hours much o f the development work is done at home at weekends. Personally, I therefore feel that I have to cut corners and some sessions are not as polished as others. The other great difficulty is that when a session has been delivered there are many times when I th ink that a part of the session could be improved, unfortunately I return to the staff room, drop off the course file and have to dash to the next

lesson. There is just not time in the day to make the amendments, as I have to prepare for the next class. This leads to frustration and sometimes inefficient and ineffective working practices.

6. References

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Watkins, 1987, p.18

Appendix A   BTEC Unit Specifications

Appendix B   Schemes of Work

Appendix C   Lesson Plans

Appendix D　　　Learning Materials

Appendix E   PowerPoint Presentations

Appendix F   Course hand outs/materials

Appendix G   Assignments

Appendix H   Assignment Tracking Sheet