Application of Theories, Principles and Models of Curriculum Design: A Literature Review

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ABSTRACT: The aim of this review is to analyse and evaluate the inclusive and innovative curriculum design and demonstrate delivery practice to measure the effectivenesson diverse groups of individual students. In this respect, this review applied some established theories, principles and models of curriculum design including hidden curriculum that may be useful in different forms and levels of learning and planning for teaching and learning in the context of post compulsory education. This review highlighted the researchers own teaching and learning experience with diverse groups of learners and promotional inclusivity at higher educational institutions.

KEY WORDS: Curriculum Design, Inclusivity &Innovation, Post Compulsory Education, Effectiveness

I. INTRODUCTION

Post-Compulsory sector has been distinguished by Coles and McGrath (2013) from other education sectors while diversity has been identified as the main element. Adult education along with further education is all labels that are used in the PCE sector, i.e., PCE sector is comprised with the learners who are over 16 years of age. Schools, colleges, universities, workplace, armed forces, prison services, community provisions, charities, alternative provisions etc. are different education providers that provide different forms and level of teaching and learning. Working in the Post Compulsory Sector (PCE) is very demanding but highly rewarding because of the diversity of the learners including their cultural background, age, experience, knowledge level. In this respect, Coles and McGrath (2013) suggested that different pedagogical models should be used in PCE if effective teaching and learning needs to be enhanced. As there are many full time, part time and recreational courses are offered in the PCE by taking the diversity into account, it may be challenging significantly for the curriculum planners, government strategists and senior managers in the PCE institutes for planning and implementing structural change. Setting standards for criteria such as teaching and learning, assessment setting and quality assurance across all subject areas is very challenging. Education and Training Foundation (ETF, 2014) generally devises a set of professional standards (Professional values and attributes, Professional Knowledge and Understanding, Professional Skills) for teaching and learning, management and governance in the FE sector in the aim of providing vocational experience beyond the dominantly provided academic curriculum in schools.

II. METHODOLOGY

In this review the researchers collected data using secondary sources and used mainly various peer reviewed journal articles and various government and agencies publications. The researchers also used personal reflection from the higher education practice. The measure of reflection explored the experimental research methods (primarily reflection) using literary forms.

III. LITERATURE REVIEW

According to Bradley, Danielson, & Doolittle (2007), there are many types of learners with different education needs in different forms and levels of learning. It is necessary for the educators/teachers to plan and teach in line with the needs of the learners. 'Response to Intervention' (RTI) is a multi-tiered system which mainly addresses the academic needs of all students. With the use of evidence-based instructional practice, monitoring progress and by taking data-informed instructional problem solving, curriculum should be designed and developed, so that effectiveness of the curriculum can be ensured (Fuchs & Fuchs, 2006; Rinaldi & Samson, 2008). That is, instructional interventions should be welcomed in the planning and implementation stage of the curriculum design and development which can be based on gaps in student skills (Vaughn & Ortiz, 2008). In this respect, Stuart and Rinaldi (2009) proposed a collaborative planning framework (below) which suggests an effective

way for the educators to deliver Tier 1 services (evidence-based instructional practices) which all students can access and tier 2 and 3 services that students with academic and learning difficulties can access. During the planning phase, teams need to identify the learning needs of the students while educators can evaluate the curriculum to ensure that all students have optimal learning opportunities (Haager&Mahdavi, 2007). For example, in a higher educational setting, we both teach level 3 to level 7 students, obviously, learning needs at different level of students are different, therefore, it is essential for the educators to develop the programme according to the expectation of the employers, central governments, local governments, society and other stakeholders. Depending on the power and influence of different stakeholders, our university contextualise the programmes while we, lecturers/teachers develop our planning and teaching. For example, we run two certificate programmes including CertHE Skills in the workplace and CertHEHSC (Health and Social Care) which generally attract the students from diverse range of backgrounds. Students with no formal educations in the UK (with experience) can apply for the course (level 4) for one year. Having successfully completed certificate programme, students can enrol for level 5 and continue for another two years and get a bachelor's degree or they can go back to the employment.

Taking the employers' expectation and students' learning needs into account, programmes are structured with different modules such as *Academic and Employability Skills, Problem Solving and Decision Making, Effective Teamworking and Communication Skills, Digital Skills and Research Methods, Managing Enterprise in the 21st Century and Professional Career Development* etc. That is, we try to relate the stakeholder needs in the planning, designing, and developing our curriculum.

With the economic and social demand of the market and learners, there are many key policies have been emerged in the PCE and key policies have a significant impact on the post compulsory sector. For example, the review of the policies time to time has given the independence to the FE colleges to be self-funded which ultimately made the FE colleges more competitive. Lifelong learning sector started focusing on commercial activity while teachers started playing active role to make the organisations financially viable. However, as competition between colleges/institutions have been stimulated due to the further introduction of the sophisticated funding mechanism, ensuring efficiency and cost effectiveness within the organisations have become the most important priority for the managers, i.e., there is a complete cultural change in the sector with huge impact. In this respect, it is worth noting that funding has been the biggest issue for further education and skills (Pleasance, 2016). It has been observed by the study of Pleasance (2016) that many tough decisions have been being taken by the institutions including redundancies, reviewing adult learning provision like increasing the class size as a strategy to cope with the pressure.

In the higher education setting the universities are mainly follow the instructions set by the Quality Assurance Agency (QAA, 2018) codes in writing, validating programme and curriculum. For example, we have to consider inclusivity in designing curriculum and assessment planning. In line with the instructions set by QAA (2018), our university institutionalise policies to all types of programme delivery and learning contexts which provide opportunities to our institution and learners within and outside the curriculum. The nature, scope and extent of opportunities, guidance and support for the students in our university are determined by the influence of professional, statutory and regulatory bodies where appropriate which ultimately derive benefits for each learner as it promotes the inclusivity for each learner.

Evaluation of Curriculum Models, Design and Development: Curriculum has been defined by Neagley and Evans (1967) as all of the planned experiences provided by the schools to the pupils so that pupils can attain all designated learning outcomes with the use of their best abilities. This definition has been supported by Inlow (1966) which also defines the curriculum as planned composite effort of schools/colleges towards the learners so that they can achieve predetermined learning outcomes. However, these sets of definitions have been criticised by Johnson (1967), according to him, curriculum is nothing but a structured series of learning outcomes from which results of instructions can be anticipated.

The basic principles of curriculum and instructions have been outlined by Tyler (1949) as determining the school's purposes, identifying educational experiences related to the purpose, organising the experiences, and evaluating the purposes. That is, according to Tyler (1949), curriculum needs to be developed by setting the objectives in line with students' learning needs while objectives must be aligned with the philosophy of the school. Likewise, Tyler (1949), Curriculum development has also been contended by Ornstein and Hunkins (2009, p15) as a process of how a 'curriculum is planned, implemented and evaluated, as well as what people,

processes and procedures are involved...'. In this respect, curriculum models assist the curriculum designers to map out the rationale transparently and systematically for the use of specific teaching, learning and assessment approaches. However, it has been critically argued by the study of Ornstein and Hunkins (2009) that though there are some technical use of the curriculum models, human aspects such as personal attitudes, values and feelings, to some extent, are ignored in the curriculum models. Therefore. It is suggested by Ornstein and Hunkins (2009) to use professional and personal judgement by taking the different stakeholders' interest and power into account in curriculum designing and development in the aim of enhancing student learning.

There are two polarised but very commonly described curriculum models such as 'Product Model' and 'Process Model'. The Product model emphasises on the plan and intentions while the Process model emphasises on the activities and effects (see Table 1 below):

Table 1: The Product and Process Models of Curriculum Development.
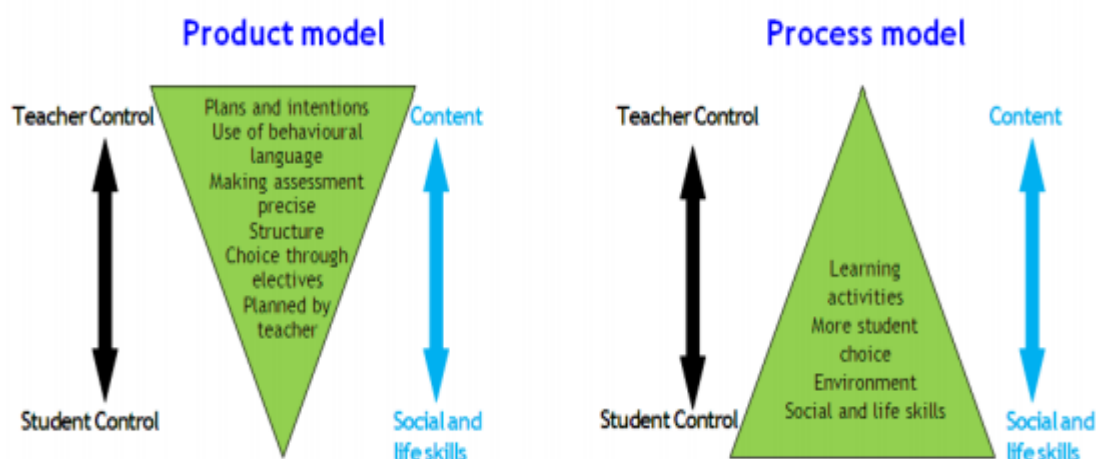
Adapted from Neary (2003)

The product model is like Tyler's basic principles of curriculum which helps the teachers in designing curriculum and making assessment approaches precise with the effective use of plan and intention (O'Neill, 2010). It is advocated by the study of Gosling (2009) that the product model can be very useful in developing and communicating transparent learning outcomes for the student population by moving the emphasis away from lists of contents to social and learning skills. Recent literature in this area suggests that the product model helps the curriculum designer in writing the learning outcomes not overly prescriptive (Hussey & Smith, 2008; Maher, 2004; Hussey & Smith, 2003). Having taken the complexities of the Product model, Hussey and Smith (2003) suggests accepting student motivation into account as an essential element in learning. That is, learning outcomes should not be over prescriptive; rather they should be broad and flexible so that students can demonstrate and express the appreciation, pleasure and enjoyment in their assessment which expresses the advantages of the process model. According to Knight (2001), the process model encourages curriculum planning (the processes, messages, and conditions) in more intuitive way in the aim of achieving good outcomes.

Being an active member of the curriculum development team in our university, we sometimes feel that we are using more of the process model than that of the product model. For example, we firstly ask ourselves what our students are really trying to achieve in the teaching and learning activities for Skills for the Workplace (CertHE) and Skills for the Workplace (Health & Social Care) (CertHE HSC) and then we write our programme and/or module learning outcomes. Many curriculum models are classified as technical or non-technical as they are pretty much similar to the product/process models. For example, technical approach focuses on content while the non-technical approach emphases on the learners. According to the technical-scientific approach, curriculum development acts as a blueprint for structuring the learning environment likewise the product model. That is, technical approach is logical, effective, and efficient in delivering education. Tyler's (1949) four basic principles and Wiggins &McTighe's (2010) backward design model can be seen as two examples of the technical/scientific approach. Backward design model can be regarded as the product model as it mainly commences with a statement of endpoints (what do the students need to know) and what evidence will be

collected to assess the success of the curriculum (architecture, engineering and education design). However, non-technical approach of curriculum development isseen as personal, subjective, aesthetic which mainly focuses on the learners likewise the process model (Ornstein and Hunkins, 2004). The key focus in this approach is mainly on the learner rather than content or learning outcomes. Studies suggest this approach as the student-centred approach. There are many examples of non-technical approach of curriculum development including deliberative curriculum model and post-positivism models. McCutcheon (1995) defines deliberative curriculum model as a solution-oriented process of reasoning about practical problems. That is, having faced and conceived the curriculum problems everyday by the teachers as an individual or groups, they need to create and weigh likely alternative solutions, need to try to find the probable results of each alternative and select and develop the best course of action.

According to Fox (1972), "deliberation concerns itself with decisions and actions and is the means by which we develop and construct the curriculum" (p. 46). In our education setting, we really focus on the real-life business case problems before we start preparing and designing the curriculum. For example, due to the COVID-19 pandemic issues around the world, we have moved from face-to-face teaching to online teaching. Some of the group work or class activities that could have been done in the classroom become difficult in online teaching, therefore, we sat and started addressing the problems through a process of deliberation. First, we are trying to identify the problem and then conceptualise the problem. As we do not know how long the problem will continue, we are not taking this problem as the procedural problem, rather we are taking this problem as uncertain problem. We are trying to formulate many alternative solutions by thinking about practical problems relating to COVID-19.

However, as suggested by Fullan and Park (1981) we may face some potential barriers to change our curriculum for the next term because of different teachers' beliefs and teaching methodology. Through deliberating on alternative approaches and solutions, we are trying to have professional dialogues among the involved teachers about such issues in the programme management meeting and meeting with lecturers (online). We are still not sure whether we can facilitate growth and change because it is not a linier process, rather it is a spiral of meaning (Roby, 1985). In this respect, Schwab (1983) suggests observing back-and-forth manner between ends and means rather than linear movement from ends to means.

The post-positivism curriculum model emphasises even less intervention from the educators/teachers/lecturers which even allows chaos to emerge. In this respect, students search for instabilities in the curriculum through chaos in order while order may result with a social and emergent quality of curriculum. That is, students, in this approach, are not presented with ideas or information with which they will all agree, rather students are encouraged to encounter ideas and find frameworks and generate fresh understandings (Ornstein and Hunkins, 2004).

The Hidden Curriculum: Lempp (2004) defined hidden curriculum as a set of unofficial, unwritten, and unintended lessons.It has been categorised by Hafferty and Franks (1994) as a set of stimuli which act at the level of organisational culture. Though hidden curriculum adds values and perspectives in medical education curriculum (Kuhpayehzadeh et al, 2013 and Amini et al, 2013) as a powerful concept on students learning, it still has not been recognised sufficiently in most of the revised curriculum around the world. But in terms of lesson delivery in ourhigher education setting with students from widening participation, we always notice that our students mainly focus on the organisational culture and learn from, where teacher can have a powerful influence on the learners. If the teachers are compassionate and truly student centred than that of the written curriculum, it can be easy for the teachers to keep the students effectively engaged.

IV.   DISCUSSION

An inclusive curriculum gives the opportunity to all students to access and participate in a course as they intend. Having reviewed many studies (e.g.,Bagihole, 1997; Grace and Gravestock, 2009; May and Bridger, 2010), it is well understood that traditional approaches of curriculum to disadvantage pupils mainly focuses on existing context for minimising difference between individuals. However, this approach, rather than providing opportunity, it locates the problem and deficit in the individual. Therefore, 'special education need' schools and the respective curriculum, may result in individualised, reactive responses to students' circumstances and apparent 'need'. As a result, curriculum for the special education need students may even stigmatise and further marginalise students whose experience, expectations and profile may be deviated from perceived norms.

On the contrary, multiple identities of students are recognised in the process of inclusive curriculum design and development. That is, inclusion or inclusive practice does not relate to only disable students, rather it considers the entitlement of all students. Rather than providing compartmentalised solutions, inclusive curriculum focuses on different diversity dimensions including educational, dispositional, circumstantial and cultural (Thomas and May,2010).In higher education setting, as mentioned earlier, we are proud of providing opportunity to the students from different abilities, skills, educational experience, knowledge, learning approaches, life and work experience. For example, we have students from 18 years of age to around 65 age group pupils. Many of them do not have even formal educational experiences but with many years of life and work experience. Entry requirement for our Level 4 - CertHE and CertHE HSC-skills for the workplace programme is very flexible, i.e., candidates do not have to have level 3 qualification before they are joining level 4 while their life and work experience is a matter. Most importantly, there are many students in these two programmes who have been identified with special education needs. Rather than compartmentalising the students with their dispositional, circumstantial and cultural diversity dimensions (for example, their confidence, identity, self-esteem, expectations, aspirations, assumptions, attitudes, beliefs, emotional intelligence, learning style perspectives, maturity, gender, sexuality, disability, age, caring responsibilities, financial background and means, marital status, cultural capital, religion and belief, social background, country of origin), we just consider their interest and coping capacity into account. As a result, it is really challenging for us to make them fully ready to achieve the certificate after a year. However, in the process of curriculum design for the respective modules, we promote inclusivity and innovation (access and inclusion agenda) which ultimately incentivise the students recruited resulting in it had been possible for us to increase interest in graduate employability among our students. That is, they are making themselves employable which is more than just getting a job (Yorke and Knight, 2006).

V.   CONCLUSION

Having reviewed different curriculum models along with diversity, we observed in our workplace that we put the students at the heart of the curriculum design process by recognising students' multiple identities, avoiding the provision of compartmentalised solution based on specific 'need'. It has become beneficial for staff, students, and the institution. In this respect, most importantly, we adopt a holistic approach for meeting students' entitlements while our university is always open, ethical, responsive, and respectful in curriculum design. Our university has 6 campuses, though, different campuses run some different programmes with some common programmes, it promotes shared ownership, understanding and partnership in the process of inclusive curriculum design resulting in it has been possible for the university to anticipate the entitlements and aspirations of all students which ultimately play a significant role in ensuring quality enhancement process and benefit the whole student population. We take UK Quality Code for Higher Education: Assuring and Enhancing Academic Quality through programme design, development, and approval (QAA, 2018) prescription into account. We assess the impact on the students learning based on the innovative and inclusive curriculum design through student satisfaction survey (e.g., the National Student Survey, the Post graduate Research Experience Survey) which gives us a greater satisfaction that students' perceptions and experiences are improved. Though we run CertHE programmes for one year, we see about more than 97 percent students take the enrolment for level 5 and subsequently complete level 5 and 6 and achieve degree in BA in Management and Leadership or BSc in Health and Social Care. That is, by supporting the students' learning experiences though inclusive curriculum design and responding to the factors that hinder their learning experience, it has been possible for us to enhance achievement, progression, and retention.

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