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Let End Define the Beginning: Using *Backward Design* for Developing Courses for Better Learning Experience

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Abstract

There are various Instructional Designs that are used by teachers and academicians for curriculum development in diverse fields of studies. Backward Design Model is one of the Instructional Designs that aims at defining and achieving goal(s) right from the beginning of the process of curriculum/course development. The purpose of using Backward Design is to outline first, the desired results that are aimed at after the end of a course. In this process, identification of the most appropriate evidences, required materials and the relevant instructions come at a later stage. Precisely, this model validates the importance of focusing on desired results, rather than selecting the tools and strategies. This paper endeavors to establish the benefits of Backward Design Model in developing courses for better learning experience of students & achieving the desired learning outcomes.

Keywords: Backward Design, Instructional Design, Learning Outcomes

Instructional design is the identification and creation of instructional materials (teaching and/or training) for learners of wide-ranging fields and various age groups. This field goes beyond creating teaching materials only and is used for a wide range of purposes and people including students attending schools, university students as well as adult employees across corporate &industries. Apart from academics, there are other sectors also like healthcare, military, non-profit organizations and retail etc. where, instructional design has become an integral part. The origin of instructional design dates back to World War II where thousands of soldiers required to be taught specific tasks within limited time. Individual elements of these multifaceted tasks were broken down into simpler forms of

instructions so that the soldiers could understand and act accordingly. This laid the foundation of setting and achieving clear objectives based on precise instructions.

While restricting it to teaching-learning process, it carefully considers how students learn and what are the most effective materials and methods available to achieve the desired academic goals. The philosophy of instructional design is to consider how educational tools should be identified, designed, developed and delivered to learners so as to ensure and generate better learning experiences & outcomes.

There are several instructional design models available for curriculum development like Backward Design, ADDIE, ASSURE and many more. Each model has its own design and strategy with major focus on some or the other element(s). What *Backward Design* does is, it makes the students understand and establish the purpose of doing something before implementing it. The backward design process of Wiggins &McTighe, as mentioned in their celebrated book *Understanding by Design*, begins with the end in mind:

> One starts with the end - the desired results (goals or standards) - and then derives the curriculum from the evidence of learning (performances) called for by the standard and the teaching needed to equip students to perform.

Using this model, students get to know what they will achieve or learn and why is it required to be learnt by them before the start of the learning process. The aforementioned book very clearly defines the pivotal keywords that are used in teaching-learning process. Its major focus remains on the outcomes or the results that a course looks forward to achieving:

> By desired results we mean what has often been termed intended outcomes, achievement targets, or performance standards. All four terms are meant to shift our focus away from the inputs to the output: what the student should be able to know, do, and understand upon leaving, expressed in performance and product terms. Desired result reminds us also that, as "coaches," we will likely have to adjust our design and performance en route, if feedback shows that we are in danger of not achieving the successes sought. (McTighe)

Syllabus designing is a complex and critical process. It requires futuristic analysis of the purpose and outcomes of a course. In the book *Understanding by Design*, Wiggins & McTighe argue that most of the teachers focus on the activities and instructions while designing a course rather than on the outcomes expected of the instructions. Most of the time a teacher tries to find out or develop the best resources for a topic/course and the most effective instructions to ensure that best teaching takes place. In other words, it can be said that teachers' focus is more on teaching rather than learning. Moreover, in order to make learning happen, design has to be kept in mind especially the outcomes, as the outcomes help in identifying the resources and instructions further. Hence, for a teacher, it becomes easy to

identify the resources to achieve an outcome (that is pre-conceived) and fosters clear development of assessments & instructions. For every teacher, it is important to identify the difference between an *Assessment*& an *Evaluation* as each of them cater to different aspects of measuring the learning of students. According to Wiggins & McTighe:

> By *assessment* we mean the act of determining the extent to which the desired results are on the way to being achieved and to what extent they have been achieved. Assessment is the umbrella term for the deliberate use of many methods of gathering evidence of meeting desired results, whether those results are state content standards or local curricular objectives. The collected evidence we seek may well include observations and dialogues, traditional quizzes and tests, performance tasks and projects, as well as students' self-assessments gathered over time. Assessment is thus a more learning-focused term than evaluation, and the two should not be viewed as synonymous. Assessment is the giving and using of feedback against standards to enable improvement and the meeting of goals. Evaluation, by contrast, is more summative and credential-related. In other words, we need not give a grade—an evaluation—to everything we give feedback to. In fact, a central premise of our argument is that understanding can be developed and evoked only through multiple methods of ongoing assessment, with far greater attention paid to formative (and performance) assessment than is typical.

With the help of this model, teacher knows what the students need to learn and how they learn it. Keeping this in mind, many activities that students do for the sake of doing them, may be eliminated; on the contrary, everything the students do has a purpose and an outcome to achieve. Wiggins & McTighe put it in this way:

> The etymology of the word suggests this: *Curriculum* is the particular "course to be run," given a desired end point. A curriculum is more than a traditional program guide, therefore; beyond mapping out the topics and materials, it specifies the most appropriate experiences, assignments, and assessments that might be used for achieving goals. The best curricula (and syllabi), in other words, are written from the point of view of the desired learning, not merely what will be covered. They specify what the learner should have achieved upon leaving, what the learner needs to do to achieve, and what the teacher needs to do to achieve the results sought. In sum, they specify the desired output and means of achieving it, not just a list of content and activities.

In traditional course design, despite its focus on the most relevant resources and hands-on activities, it does not ensure that the activities have both *hands-on* and *minds-on*

learning experiences. Many activities though, are hands-on and aim at providing practical experience to our students by involving them in activities, fail to generate any intellectual output. Whereas, *hands-on minds-on* activities require students' involvement both physically and mentally so that it leads to some *Big Ideas*. As explained by Wiggins & Mc Tighe:

> A big idea is a concept, theme, or issue that gives meaning and connection to discrete facts and skills. Here are some examples: adaptation; how form and function are related in systems; the distributive property in mathematics (whereby we can use any number of groupings and sub groupings to yield the "same" numbers); problem solving as the finding of useful models; the challenge of defining justice; and the need to focus on audience and purpose as a writer or speaker. In an education for understanding, a vital challenge is to highlight the big ideas, show how they prioritize the learning, and help students understand their value for making sense of all the "stuff" of content.

As *Backward Design* has its focus on outcomes, it makes it easier for a teacher to identify resources & instructions that involve students in *thinking* while *doing*. On the contrary, in traditional course design it is just like a student who needs to understand a book and tries to learn it page by page without knowing why s/he is learning it, what will s/he learn, what s/he will understand and be able to do, and so on. The teacher also tries the best s/he can do to cover the book and the information therein, assuming that the students will retain all that has been taught and discussed. Rightly put by Wiggins & McTighe:

> Unless we begin our design work with a clear insight into larger purposes—whereby the book is properly thought of as a means to an educational end, not an end unto itself—it is unlikely that all students will understand the book (and their performance obligations). Without being self-conscious of the specific understandings about prejudice we seek, and how reading and discussing the book will help develop such insights, the goal is far too vague: The approach is more "by hope" than "by design."

The Backward Design Model as elaborated by Wiggins &McTighe, involves teachers' planning in 3 phases:

1. **Identifying desired Results**: As mentioned by Wiggins & McTighe in their book 'Understanding by Design', *What should students know, understand, and be able to do? What content is worthy of understanding? What enduring understandings are desired?* Here, *Enduring* understanding refers to the main ideas and concepts that a student needs

to retain even after forgetting many details of lesser importance. Wiggins & McTighe talk of *Big Ideas* and their importance in the similar context:

> A big idea may be thought of as a linchpin. The linchpin is the device that keeps the wheel in place on an axle. Thus, a linchpin is one that is essential for understanding. Without grasping the idea and using it to "hold together" related content knowledge, we are left with bits and pieces of inert facts that cannot take us anywhere.

In this stage, we have multiple resources available than we can reasonably address during the stipulated time of a course. Therefore, this stages demands clarity in defining priorities and making right choices.

2. **Determine Acceptable Evidence of Learning**: After having decided the learning outcomes, now the second stage aims at collecting evidence(s) to know whether a student has achieved the desired results. Its purpose is to collect assessment evidence to validate that the desired learning outcome has been achieved. These assessment methods include both formal and informal checks viz. oral questions, informal dialogues, traditional tests & quizzes, etc. Depending on the Course and the outcomes, the teacher may use summative or formative assessments, though formative assessments serve better for this purpose. The purpose is to focus on the "Enduring" understanding of students (Fig.1).

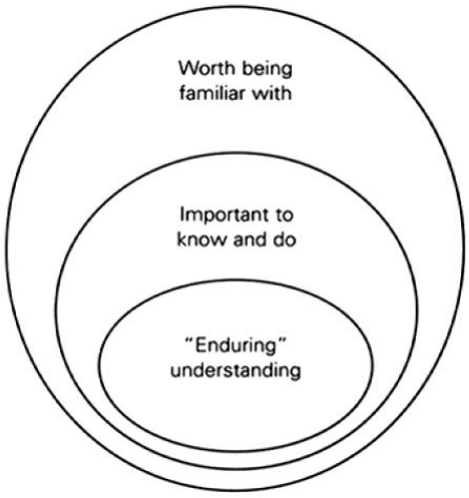

Fig. 1
(From the book *Understanding by Design* by Grant Wiggins & Jay McTighe)

Keeping in mind students' perspective, the largest circle includes all the information that is worth being familiar with – it paves the way to further understanding of important ideas and creates a base for further learning. The second circle includes all the important information that students need to know and based on this knowledge, they should be able to do/perform activities. The third circle (smallest one) has the information that students need to retain and take forward in their learning process and is named "Enduring" understanding. According to the authors:

> Enduring understandings use discrete facts or skills to focus on larger concepts, principles, or processes. They derive from and enable transfer: They are applicable to new situations within or beyond the subject.(McTighe)

3. **Design Learning Experiences & Instruction**: Based on the desired learning outcomes and the assessment evidences, now the teacher has to decide the best activities and instructions that cater to each learning outcome. What materials, resources and instructions are best suited to accomplish these goals are decided at this stage. Say Wiggins & McTighe:

> Several key questions must be considered at this stage of backward design: What enabling knowledge (facts, concepts, principles) and skills (processes, procedures, strategies) will students need in order to perform effectively and achieve desired results? What activities will equip students with the needed knowledge and skills? What will need to be taught and coached, and how should it best be taught, in light of performance goals? What materials and resources are best suited to accomplish these goals?

Keeping the discussed *Backward Design Model*, here is sample of an Online Certification Course on Professional Writing along with the learning outcomes and the Course plan & structure.

Course Outcomes: At the end of the Course, the students will be able to:

1. Identify & learn the rules of grammar & construction
2. Apply the principles of paragraph development viz. Unity, Coherence & Emphasis in their writing.
3. Analyze the role of psychology &importance of tone and their application in writing
4. Develop/Write formal Emails, letters and Résumé

The detailed break-up of the sample Online Professional Writing Certification Course including outcomes, evidences and instructions based on *Backward Design Model* is as follows:

Unit1: **The Art & Essentials of Writing (3 Weeks)**

a. English grammar, Usage & Punctuation
b. Developing ideas coherently & purposefully: Signposting with Strong *Topic Sentences*
c. Art of Storytelling: Differentiating between a good story and a bad one
d. Brevity is the Soul of Wit!

Outcome: At the end of this Course part, students will be able to:

- Learn and apply the rules of grammar & construction in their writing.
- Apply the principles of paragraph development viz. Unity, Coherence & Emphasis in their writing

Evidence: Formative Assessments (both traditional & open-ended tasks), Quizzes, Academic Prompts, Selected Response (Subjective)

Instruction: Online PDF/MS PPT discussing Grammar rules & common errors in writing, Video lectures on paragraph development techniques &Storytelling, Online discussion & writing activity.

Unit 2: The psychology of writing (3 Weeks)

a. Understanding tone and voice: Role, Importance and Use in Writing
b. Understanding mind's reaction to writing: What readers like to read?
c. Role of *Orientation*, *Vocabulary* & *Organization* in Writing
d. Writing is Revising!

Outcome: At the end of this Course part, students will be able to analyze the role of psychology &importance of tone and their application in writing.

Evidence: Formative Assessments (both traditional & open-ended complex tasks), Quizzes, Academic Prompts, Indirect Tests, Performance Tasks and/or Projects

Instruction: Podcast/Vodcast, Video lectures, Online discussion & individual task based on the resources provided

Unit 3: Professional Writing: Planning Process, Format & Content (3 Weeks)

a. Writing Emails
b. Letter Writing
c. Developing Professional Résumé
d. Proofread, Edit & Rewrite

Outcome: At the end of this Course part, students will be able to

- Describe the planning process and elements of email, letter &Résumé
- Develop/Write formal Emails, letters and Résumé.

Evidence: Formative Assessments (both traditional & open-ended), Constructed Response, Quizzes, Academic Prompts & Online Discussions, Individual Projects& Portfolio
Instruction: Podcast/Vodcast, Online discussion & individual projects/assignments based on resources provided, Online quizzes on Writing samples (good & bad messages)

The sample certification Course is planned keeping in view the outcomes that are expected at the end of the certification Course. Based on the learning a student needs to have during the course, four outcomes are identified and outlined right from the beginning. Using Backward Design, the evidences have also been identified which include several formal and informal evaluation &assessment methods. Finally, the instructions & resources are also identified based on the requirement of the Course so that they cater to each topic precisely and help achieve the outcomes aligned with each topic/Course part. The resources and instructions are identified keeping in view the fact that they lead to *Big Ideas* and /or *Enduring Understanding*.

To conclude, the said course developed using Backward Design caters to the **WHERETO** acronym as discussed by the authors in their book:

> An acronym for **Where** is it going?;**Hook** the students; **Explore** and equip; **Rethink** and revise; **Exhibit** and evaluate; **Tailor** to student needs, interests, and styles; **Organize** for maximum engagement and effectiveness.(McTighe)

Though in *Backward Design*, the selection of resources and instructional strategies are delayed as they happen at later stages and to many educators it may not sound an ideal process, the selection of resources, assessments and instructional strategies without identification of desired goals would seem premature.

Works Cited

McTighe, Grant Wiggins and Jay. *Understanding by Design*. Alexandria: ASCD Publications, 2005. Print.