

Using Teaching Analytics to Reflect on the Teaching Design

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Abstract

Teaching is encouraged through the support and the collaboration of other teachers. Data mining comes as a way to better reflect on teaching design as well as classroom practices. In this paper we are going to use the concept of Teaching Analytics as a tool that can help teacher analyse their educational design and that enable them to create better learning conditions for their students in our platform. This article also includes a comparison of lesson plan between two teachers at the Shariaa University, Fez.

Keywords: support and the collaboration, teaching design, Teaching Analytics

1. Introduction

Using teaching analytics will surely help hold the interest of the students; one of the most effective methods for e-learning teachers to analyse, catch and share their teaching designs is through lesson plans. It will show the teacher the effectiveness and insufficient of lesson plan built by a particular teacher. The design of lesson plan base on knowing required elements as well as comes on taking collaborative processes by many teachers. Different assessment such as role-play activity will be delivered due to the sufficient approach to the level of students and due to the knowledge of lesson plan.

2. Lesson Plan

Lesson plans have been defined in different ways. First, it is considered as “a concise working document which outlines the teaching and learning that will be conducted within a lesson” [1]. This definition has been taken by general teachers to form their lesson into different organized sections. Second, Center for Research on Learning and Teaching goes further on definition of a lesson plan, so it is “[t]he instructor’s road map of what students needs to learn and how it will be done effectively during the class time.” McNeil and Wiles [2] argue that a lesson plan is “a teaching outline of the important points of a lesson for a single class period, arranged in the order in which they are to be presented. It may include objectives, materials, [and] assignments.” Although a lesson has three descriptive definitions, each definition is in common. A lesson plan is thought to be as blueprints that capture and document how online teachers plan to orchestrate teaching, learning and assessment activities for their students during a certain period of being in and out of school: laboratory or homework time, and so on [3] [4].

2.1. The importance of a lesson plan

The discipline of lesson planning will install the necessary thought processes for teachers to produce coherent and effective lessons. In particular, a teacher with strong lesson planning skills will be able to understand a specific unit of learning divided into lessons, the objectives of each lesson, teaching and learning activities which are most effective for achieving the objectives, materials that are needed to carry out the activity and achieve the objectives, and the time when an activity should be carried out.

These come as a result of organising ideas, knowing the steps to follow in a lesson, and having a clear objective of what your students need to learn in the lesson. Thus, such elements will make your class successful [5] [6].

When you do not plan your lessons on the other hand you may have different problems. Students can get more easily distracted. You do not achieve your objectives. There could be behavioural problems. Your lessons may not be connected, and there might be frustration for both the teacher and the students. When you plan your lesson, on the other hand, objectives are generally achieved; the material you use for lesson can be reused in other lessons, and can help you reflect on your teaching methods. To make a good lesson plan you need to consider the following aspects: level of the students, their background, their age and nationality. You also need to consider aims.

Here are some other ways of stating lesson names. For example, identify the meaning of the underlined words, differentiate between 'at' and 'in', practice reading or listening comprehension, and role-play a situation at the grocery store. Other points you need to consider when planning your lesson are your assumptions.

The teachers need to know or be familiar with the students' previous knowledge in order to understand the topic or aim of your lesson. For example, if your lesson name is role-play situation at the grocery store, your students may be familiar with vocabulary related to groceries or they should at least know most of the words they need to use in the role play. It is also important that they have had some exposure to language used when asking for an item in a shop.

However, it is quite frustration to teachers who do not understand their students.

Let us consider the case of the role play when students may be shy and may not like to perform in front of an audience, or they may not use the target language as fluently as you had expected. At this point you can make a list of the possible problems that may arise, and then think of how you would solve them.

- Duration of the lesson - how long is the lesson and how long will each step or activity last.
- Method or approach you want to use - if you are familiar with different approaches such as the communicative approach, task-based learning, audio lingual based approach etc. choose the most appropriate for that particular lesson aim.
- Types of activities or tasks will be included in the lesson, and aides will you need to use to achieve your aims. Aids refer to any material or tools you will need to use to achieve your aims. For example, roll cards, pictures realia, magazines, handouts and even the board. It is definitely time consuming taking all the above into consideration when planning the lesson for the next day.

For a lesson that may take 45 minutes a beginner teacher can spend all evening thinking of contents, materials and activities. It is advisable though to take the time to make a detailed lesson plan when you are beginner teacher. Once you grasp the principles you will start making lesson plan, depending on different elements [7].

2.2. Elements of a Lesson plan

Every Lesson plan should be organized into different templates. These templates are defined as a set of elements that educators should share in order to capture and document their teaching designs in a well-organized manner.

Here, Maloy et al. [8] suggest lesson plan templates should include at least three core elements: the first is that the students should achieve a complete understanding of the educational objectives/standards. The second is to deliver the flow and timeframe of the learning and assessment activities during lesson. The third is to support the delivery of the learning and assessment activities through the educational resources and tools [9] [10] [11] [12].

However, lesson plan templates may also include additional elements that enable the teacher to populate their teaching designs in a more structured manner. A lesson plan, therefore, may include elements such as those shown in the following figure:

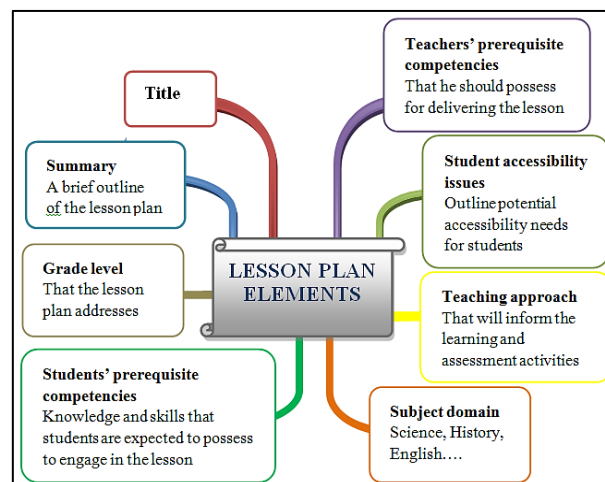


Fig.1: Elements required for building a Lesson plan

3. Digital tools for lesson planning in usmba

As we discussed, classroom teachers can use templates to build their lesson plans in a more elaborate manner. To further support them in this process, digital tools have been developed. These tools are referred to as lesson planning tools.

For this reason, our website utilizes lesson planning tools as a set of common functionalities to encourage teachers primarily to: gives templates so as to select from and build their lesson plans; show pre-defined or configurable sets of educational objectives and/or standards which can be directly mapped to a lesson plan; provide an overall view of what types of lessons and learning and assessment activities are mostly required; allow collaborative creation of lesson plan with peers or mentors; and allow to share and discuss lesson plans with other teachers.

Based on the elements of a lesson plan above, we should take into consideration their importance in the real-life examples.

3.1. Teaching Analytics Tasks

To analyse online teaching design for self-evaluation and improvement requires different teaching analytic tasks. In particular, teaching analytics used in our website enables educators to visualize the elements of the lesson plan. These elements include the number and/or types of learning/assessment activities of the lesson plan; the number and/or types of educational resources of the lesson plan; the teaching time allocated in each learning/assessment activity.

Teaching Analytics can be used to support three main tasks related to teaching planning:

Table 1: The beneficial usages of teaching analytics on three tasks.

Task number	Task Description
1	Teaching Analytics can be utilized to break down a lesson design and enable instructors self-to reflect. This should be possible in

	<p>three ways :</p> <ul style="list-style-type: none"> Visualize the components of the lesson design and encourage educator reflection on their outline Visualize the arrangement of the lesson want to instructive goals/principles, to enable the instructor to track if and to what degree the targets of their lesson designs are adjusted to particular instructive destinations or pertinent benchmarks Perform approval of a lesson plan keeping in mind the end goal to feature potential irregularities in the teaching design.
2	<p>Analyse the design of classroom instruction by sharing with peers or mentors to receive feedback.</p> <p>Use to help the way toward sharing a lesson design with associates or coaches, enabling them to give criticism through remarks and explanations.</p> <p>Enable associates to mutually break down and explain a typical instructing model to take into consideration co-reflection.</p> <p>Give highlights to a cycle of:</p>
3	<ul style="list-style-type: none"> Create a communitarian space to co-examine lesson designs among peers; Annotate or remark on joint lesson designs by all companions; Co-think about the remarked/commented on joint lesson design.

Our web also provides the platform through which teachers can visualize the arrangement of the lesson plan based on educational objectives and standards. This arrangement opens an opportunity to share and discuss a lesson plan with other teachers and to highlight most required individual learning/assessment activities. The activities will be taken as different processes such as reading, investigating, producing, and discussing.

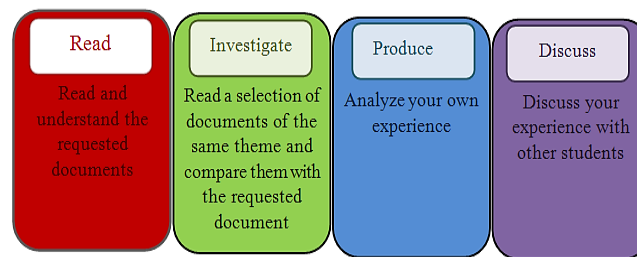


Fig.2: The most required individual learning/assessment activities in the lesson

In addition, the activities above will be measured with the help of charts. Even though there are different the types of chart, we will use the easiest one to be understood and interpreted. For example, take a look at the following chart:

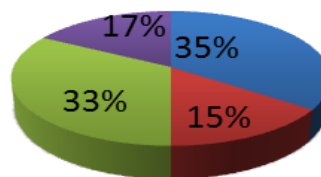


Fig.3: Measurement of the most required individual learning/assessment activities in the lesson.

Sharing a lesson plan with peers or mentors for providing and receiving feedback will be presented in our website as a means to improve the effective lesson plan.

3.2. The contribution of Technology on lesson plan

Technological advancements are promising because they can facilitate the personalization of education. They can also make possible the effective monitoring of learning processes and potential outcomes. The timely identification of student learning engagement problems is a great advantage of new learning technologies. Educators in the design of new sequences, get some systems to reuse a sequence designed by someone else, and also help with the monitoring of student learning behaviours. For learning analytics to increase the quality of learning engagement and learning outcomes, student online learning motivation and learning engagement will need to be better understood. Learning design researchers have turned their attention to possible ways of helping students to engage in deep learning behaviours through design. They are recognizing the importance of the link between the careful design and sequencing of activities and the motivation of students to engage with each other and the learning material.

4. The Sharing of Lesson Plan at USMBA University

In this study, we provide teachers with prediction of how website will be. It is going to be platform (ASTEMOI) based on organizing and sharing a lesson plan with peers of teachers with the purpose of understanding the problems one of these teachers may face during delivering courses the teachers expected [13][14][15]. This platform is as follows:



Fig.4: Teacher discussion for building a particular lesson plan.

The platform is divided into different sections as a way to help the teachers reflect on their lesson plan as well as to sustain its objectives. It also provides an opportunity to share, analyse, discuss, and criticize a particular lesson plan.

5. Conclusion

In this article we have seen the use of the concept of Teaching Analytics and how it can be used in practice to help teachers analyse their lesson plans and create better learning conditions for their students. In the context of classroom teaching practice, Teaching Analytics can help teachers to analyse their teaching model and improve it before it is actually delivered to their students.

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