**Lesson Plans Reflective Essay**

Author's Name

Institutional Affiliation

Course Name and Number

Instructor's Name

Assignment Due Date

**Lesson Plans Reflective Essay**

**Introduction**

**The reflective essay narrates the creation of various lesson ideas in stage 4 and various adjustments and amendments in stages 5 and 6 with the aim of ensuring the students grasp respective mathematics concepts. The three main learning activities throughout the three stages include description of different multiplication ideas to establish a background of the concept. Second is calculation by multiplication, division and fractions to indicate how different relevant mathematics symbols interact. The final learning activity involves solving problems meant to teach students how multiplication can be applied in real-life scenarios. The paper concludes with an evaluation of the lesson plan indicating its strengths and areas of improvement.**

**Stage 4 Learning Plan**

**Stage 4 learning plan acts as the basis of the learning outcomes by introducing the key components. Stage 4 is concerned with multiplication and division and entails selecting which operation in a number sentence should be completed first, second, third, and so on, as well as when grouping symbols should be utilized. During this time, use ratio and proportions to recognize that a photograph is one-fifth the size of a genuine dog** (Stephens, 2014)**. To answer a question, round up or down after division. Any two-digit number can be multiplied by two by dividing it by single-digit digits. Multiply a two-digit number by a single-digit number. Multiply a single digit by 10 to 90. Understand that division and multiplication are inverse functions. During this level, pupils may not be aware that the order in which calculations are done can affect the results. So, they examine using the activity 'Calculations yielding varied responses'.**

**Number multiplication and division are consecutive exercises at this stage. To help the students absorb the subject, the teacher develops a strategy where they start with simple numbers and work their way up. After identifying the numbers, students multiply single-digit numbers, then double-digit numbers, three-digit numbers, and so on. The teacher should guide the pupil and ensure they comprehend each level. This stage involves pupils aged 7 to 8, thus a teacher must be careful with them. Calculation errors are common at this level. Teachers should always accept accurate answers but stress corrections** (Tompong & Jailani, 2019)**. After the first task, the learner moves on to the second, having grasped the concept. At conclusion, multiplication and division are required math concepts in stage 4 of learning. As students advance in math, they gain a broader understanding of mathematical concepts. As well as increase a learner's proficiency in sharing and doubling numbers.**

**Stage 5 Learning Plan**

**Stage 5 builds on various mathematical concepts and teaching strategies defined in the initial stage. The students can no learn about how numbers are involved in creating ratios and proportions involving single- and double-digit numbers. Students will now be able to define multiplication of numbers and since they now have the basics, they can learn how double single digits and double digits. The best activity in this stage will be to group the students into categories of three each and have them join every group until they calculate the total number of students** (Linder & Simpson, 2017)**. This will help them learn the incremental aspect of multiplication. To ensure every student understands these concepts they will be paired and asked to define single- and double-digit numbers. This strategy will also help in assessing the understanding of the lesson’s outcomes.**

**Since in stage 4 the pupils were aware that the order in which calculations are done can affect the results, stage 5 will attempt to improve on that by asking the students to write the single digits and double-digit numbers on a smart board. This can be done in pairs and will help the students see how the various numbers interact. Students will further be** grouped into pairs, and a single student then they multiply to get the figures. In pairs for 15 groups, the first pair gets into the second pair to form one group. The group joins a single share and gets the calculations. The process continues till with the last pair. The students with the help of their teacher count the total number of students they form from the group. This will help them understand how they can multiply the total number with a single pair to get the total students they had. Discussion and questioning are used as the assessment techniques because the pupils will be learning in groups.

**Stage 6 Learning Plan**

**Stage 6 is the most advanced of the lesson plans because the students have already mastered the basic multiplication concepts and have participated in impactful activities. The pupils can now start learning about fractions and how they are involved in multiplication calculations. At the end of this lesson students will be able to define multiplication by fraction, successfully perform fraction multiplications and numerical solve relatable mathematical tasks. First the students will be grouped in pairs and expected to define fractions as they relate to multiplication. In this advanced level students will learn** how to double a single-digit number, double a double-digit number, divide a number by a single digit number, dividing by a double-digit number. However, like the initial two stages, the pupils will be grouped into groups of three and have to get the total number of students in the class. They will have to keep on joining the group of the other and finally they get the total number of students. The complex aspect of stage 6 will be using double-digit numbers, three-digit numbers, four-digit numbers, and five-digit numbers in the calculations. The teaching techniques will involve the use of a smart board and the teacher will be present to help in any corrections (Benson-O'Connor et al., 2019). Assessments will be made based on calculations, question and answer sessions and presentations from students. Finally, it will be necessary to give take away assignments for further practice of the learned concepts.

**Conclusions**

Designing and developing learning plans can be a challenge because they require specificity and keenness. The focus of the lesson plans in the stages 4, 5, and 6 was three dimensional including **description of multiplication concepts, calculation and application of these learned concepts in solving problems complex mathematical concepts. Stage 4 starts with easy concepts using more of single digits than double digit numbers in the multiplications. Stage 5 uses more of double-digit numbers than single digits and stage 6 introduces three-digit numbers. The strength of these plans is that they pay attention to the level of complexity, introducing the easier problems and slowly building into sophisticated calculations. The only problem that might need improvements is the repeat of teaching strategies and assessment techniques throughout the stages. It will be necessary to explore alternative approaches to avoid monotony.**

**References**

Benson-O'Connor, C., McDaniel, C., & Carr, J. (2019). Bringing Math to Life: Provide Students Opportunities to Connect their Lives to Math. *Networks: An Online Journal for Teacher Research*, *21*(2). https://doi.org/10.4148/2470-6353.1299

Linder, S., & Simpson, A. (2017). Towards an understanding of early childhood mathematics education: A systematic review of the literature focusing on practicing and prospective teachers. *Contemporary Issues in Early Childhood*, *19*(3), 274-296. https://doi.org/10.1177/1463949117719553

Stephens, M. (2014). The Australian Curriculum: Mathematics—How Did it Come About? What Challenges Does it Present for Teachers and for the Teaching of Mathematics? *Mathematics Curriculum In School Education*, 157-176. https://doi.org/10.1007/978-94-007-7560-2\_9

Tompong, B., & Jailani, J. (2019). An evaluation of mathematics learning program at primary education using Countenance Stake Evaluation model. *Jurnal Penelitian Dan Evaluasi Pendidikan*, *23*(2), 156-169. https://doi.org/10.21831/pep.v23i2.16473