

# A comparative evaluation of the effectiveness of using daily vise-a-vise weekly lesson plans in teaching of Biology in Ethiopian Secondary Schools

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**Abstract.** The study was conducted on the comparative evaluation of the utility of the daily vise-à-vise the weekly lesson plans for teaching biology in Ethiopian secondary schools. The objective of the study was to investigate which of the plans were effective to enable teachers in designing better strategy of teaching methods to delivery prescribed lesson portions with practical activities and assess how much of the taught concepts of biology were successfully transmitted to students. Descriptive methods were used to evaluate quantitative and qualitative data collected through interview questions and covert observations. Both interviews and observations were employed to collect data from 16 regular trainees of postgraduate diploma in teaching biology (PGDT). Interview questions were set as variables to gather information and evidence on the comparative assessment of the daily vise-a-vise weekly lesson plans. For classroom observations, checklists were set and used to value and score on how much the lesson plans enabled trainees to perform effective teaching of biology including the practical exercises in placed secondary schools. Collected data using both instruments were arranged into two tables containing assessment values and scores of each respective variable. As a result, the average score of comparative evaluation of the daily lesson was 80.41% more useful than the 19.59% weekly lesson, which clearly approved the effectiveness of the daily lesson plan by 60.82% efficacy differences. It means the utility of daily lesson plan enhances and facilitates lesson delivery methods, and much more effective to address the teaching process and understandings of learners. Hence, the research was concluded with concepts that the daily lesson is more advantageous to improve the transferring quality in all education systems.

**Keywords:** Checklists, daily lesson plan, effective teaching variables, weekly lesson plan.

## INTRODUCTION

A lesson is a structured period of time where learning is intended to occur involving one or more learners being taught by a teacher. It may be either one section of a textbook or more frequently a short period of time during which students are taught about a particular subject on how to perform a particular activity.

In a wider sense, a lesson is an insight gained by a learner into previously unfamiliar subject matter that can be planned or accidentally enjoyable or painful

waytaught in a classroom, but may instead take place in a situated environment.

A lesson plan is a set of lesson delivery guideline, designed strategy on how to proceed and conduct teaching and learning effectively. Any lesson plan consists of key components like the knowledge of the subject matter and methodology of lesson delivery to students successfully.

Lesson planning gives the teacher an idea of how to

develop the use of key concepts of the lessons, correlate the concepts to the real life situation and conclude with prospective ideas. It requires foreseeing the difficulties that likely arise, dealing with all perspectives of lesson delivery, deciding the time allotment and breakdown for each part of the lesson.

Any lesson plan has its own format that depends on the time budget required to accomplish pertinent portions of the schooling system.

In view of this, lesson plans are divided into the time budget formats needed to complete designated topics of a certain subject and termed as daily, weekly, monthly, semester and annual.

Accordingly, the daily lesson plan is for teaching a topic of a day, the weekly lesson plan is to cover designated portions of the week, the monthly lesson plan is to teach all portions designated to be covered within a month, the semester lesson plan is the coverage of the portions of the whole semester and the annual lesson plan is what to be covered throughout the year.

In comparative evaluations of a daily *vis-à-vis* a weekly lesson plans the daily lesson plan, which is usually set to guide and deliver lessons of a single day of a subject whose details of delivery methods vary depending on the preference of the teacher, provides better teaching facilities that enable teachers to execute lesson delivery in respect to specific objectives of the lesson. But, contrary to the daily lesson plan, the weekly lesson plan could not facilitate teaching processes as required and disabled teachers to set and use specific objectives of the lessons prescribed for the whole week.

Learning objectives of the daily lesson plan are brief and specific statements that describe what students will be expected to learn at the end of the lesson, whereas assessments are strategies of checking to what extent learning objectives of the lesson were successful within that day. Successfulness of a lesson plan is determined by contextual structure to address and integrate its three key components of specific objectives for student learning, teaching and learning activities, and strategies to check student understanding and feedbacks. If the lesson plan misses any of the components, learning remains unsuccessful. A well-developed lesson plan reflects the interests and needs of students and incorporates best practices of biology.

Contrary to the daily lesson, the weekly lesson plan is teachers strategies developed on how to deliver and guide class learning or coverage of designated portions throughout one week.

In designing a weekly lesson plan to embark on teaching of all topics within five days mostly from Monday to Friday, lesson planners have difficulties to select and set specific objectives and assessment techniques for each topic of each day.

In weekly lesson plans, methods of lesson delivery, teaching materials and resources used to accompany each of the topics of the week cannot be clearly stated in

the weekly lesson plan format and used practically. It most commonly makes confusions, omits some important portions or repeats some of the points unnecessarily and made teaching ineffective across the secondary schools of the country.

In biology education, courses are considered as complete when they include practical works and carried out by individuals in the laboratory as well as in experimental centers using proper planning.

In Ethiopia, University graduates must take a one-year training course after having their degrees or directly employed as a teacher where shortages arose and continue professional development through the in-service training to be secondary school teachers.

Due to the reason that many learners could not understand taught lessons after the class and become unsuccessful in their consecutive higher education, the researcher decided to make a comparative evaluation on the teaching effectiveness of using daily and weekly lesson plans.

The problem of the utility of daily *vis-à-vis* weekly lesson plans was identified while trainees of teaching biology for being secondary school biology teachers were exercising the practical activities of teaching at the Post Graduate Diploma in Teaching (PGDT) program of Addis Ababa University.

Trainees were oriented with the contents and formats of the daily lesson plan and conducted peer teaching before they were placed at secondary schools for long practices. But, it is paradox that the secondary schools where the trainees were placed for 4 weeks of teaching exercise of biology, use weekly lesson plans which was quite different both in contents and in formats.

In view of this, this research was conducted while trainees were performing both peer and classroom teaching of biology to exercise teaching methods under the course practicum at placed different secondary schools.

Trainees faced great dilemmas to choose either the daily lesson plans they had been exercising at training centers or the weekly lessons, which was actively in use at secondary schools.

The subject of the research was to conduct a comparative evaluation on the utility of a daily *vis-à-vis* a weekly lesson plans in teaching biology to determine which of the lesson plan formats and contents facilitates required quality of teaching effectiveness in Secondary Schools of Ethiopia.

## METHODOLOGY

### METHODS

Descriptive methods were used to comparatively evaluate data collected on the utility of the daily *vis-à-vis* of the weekly lessons in teaching efficacy of biology.

**Table 1.** Comparative response on the utility of daily visa-a-vise weekly lesson plans

| No | Daily and weekly lesson plans variables on teaching effectiveness | Efficacy scores of lesson plans (%) |                    |
|----|---|-------------------------------------|--------------------|
|    |   | Daily lesson plan                   | Weekly lesson plan |
| 1  | The lesson plan format is well structured                         | 77                                  | 23                 |
| 2  | Specific objectives of the lesson topic                           | 80                                  | 20                 |
| 3  | Methods and resources set   | 83                                  | 17                 |
| 4  | Recapitulations of the topic                                      | 82                                  | 18                 |
| 5  | Assessments suited with objectives                                | 86                                  | 14                 |
| 6  | Coverage of designated activities                                 | 85                                  | 15                 |
|    | Average   | 82.16%                              | 17.83%             |
|    | Efficacy differences  | 64.33%                              |                    |

**Table 2.** Observational scores of the efficacy of daily visa-a-vise weekly lesson plans

| No | Variables of comparative evaluation on the utility of daily vie-a-vise weekly lesson plans | Efficacy scores of lesson plans (%) |        |
|----|--|-------------------------------------|--------|
|    |  | Daily                               | Weekly |
| 1  | Lesson plans are well structured   | 80                                  | 20     |
| 2  | Teaching processes are well-balanced   | 90                                  | 10     |
| 3  | Teaching resources were designed and used  | 70                                  | 30     |
| 4  | Designated activities covered  | 76                                  | 24     |
| 5  | Summary and feedbacks of the topic was done  | 81                                  | 19     |
| 6  | Successfulness of lesson objectives were checked   | 90                                  | 10     |
|    | Average  | 78.66%                              | 21.33% |
|    | Efficacy differences   | 57.33                               |        |

To find out which of the lesson plans is more effective and enable teachers to transfer knowledge and concepts of biology in easily understandable ways to learners and bring quality education, both daily visa-vise weekly lesson plan contents were comparatively evaluated using quantitative and qualitative methods.

The study of comparative assessment of both lesson plans was focused on the strategic design of contents and formats set to facilitate effective teaching of biology in view of its specific objectives, lesson delivery methods, appropriate uses of resources, provision of ongoing feedbacks and assessments techniques of a particular lesson topic.

Interview questions and covert observations were employed on 16 regular 2015/16 PGDT trainees of teaching biology to collect required data.

Interview questions were set to contain variables distributed to 16 regular PGDT trainees, and respondents read and discussed in groups, valued and scored each variable out of 100 in written forms and described orally as well, which the researcher recorded (Table 1).

Covert observation checklist containing variables of comparative evaluation on the usefulness of the daily vis-à-vis weekly lesson plans were set and applied. It was

employed on 16 PGDT trainees while exercising teaching practices of the practicum course using both daily and weekly lesson plans at placed Secondary Schools.

The researcher was also assigned to supervise these PGDT trainees in placement of secondary school while they were exercising teaching biology using both lesson plans (i.e. they used the daily lesson plan for the supervisor and the weekly lesson plan for the school mentor). Then, the researcher used this opportunity to compare and assess the practical utility of both lesson plans using checklists, valued and scored the performances of these 16 regular PGDT trainees while they were conducting classrooms teaching of biology (Table 2).

## DATA EVALUATION

Both illustrated tables show the outcome of gathered data through interview questions and covert observation on comparative evaluations of variables on the usefulness of daily visa-a-vise weekly lesson plans and scores were described.

Variables of interview question were set to comparatively

evaluate the utility of efficiency of the daily vise-a-vise weekly lesson plans in terms of sequential contents, lesson objectives and delivery methods of designated lesson activities, uses of learning facilities, recapitulations and relationships of learning assessments with lesson objectives.

Consequently, the formats and contents of both lesson plans were compacted into six variables on the usefulness of the daily vise-a-vise weekly lesson plans that respondents were valued and scored orally (Table 1).

Response to interview variables by the trainees on comparative evaluations of the utility of both lesson plans showed that the daily lesson plan was 82.16% more effective against the weekly lesson that accounted for 17.83% only. The outcome of responded scores to interview questions on comparisons of both daily and weekly lesson plans showed big efficacy variations of 64.33% than the weekly in enhancing teaching biology.

Data were collected through covert observation of 16 regular trainees in teaching biology while they were conducting biology teaching exercise in placed secondary schools.

Data was gathered using covert observation checklists containing six variables employed while trainees were exercising the classroom teaching of biology to evaluate and score which of the two lesson plans was useful to enable trainees perform proper lesson delivery (Table 2).

The researcher covertly observed, supervised and valued the performance of each trainee on how much and which lesson plan was useful to enable each of them to conduct effective teaching of the lessons.

The comparative evaluation of covert observation of six variables of the daily vise-a-vise weekly lesson plans in classrooms indicated that the daily lesson plan was 78.66% more useful than the weekly lesson plan that had only 21.33% utility. Differences in scores of comparative evaluation of both lesson plans showed that the daily lesson plan was 57.33% more useful than the weekly lesson plan in teaching biology.

## RESULTS AND DISCUSSION

### RESULTS

The result of comparative evaluation of the daily lesson plan vise-a-vise weekly lesson plan was concluded that the daily lesson plan was more useful and effective than the daily lesson plan in teaching biology.

As a result, the average of comparative evaluation of the daily lesson was 80.41% more useful than the 19.59% weekly lesson, which clearly approved the effectiveness of the daily lesson plan by 60.82% efficacy differences. The study concluded with 60% more utility differences of the daily lesson plan than the weekly lesson plan showing that there is much effectiveness in teaching process and understandings of learners.

### DISCUSSION

The daily lesson plan was found the best tool to guide class teaching depending on the lesson topics, preferences of the teacher and the need or curiosity of students. Sutuma (2013) stated that using the daily lesson plan made teaching pleasant, well-organized and more systematic, induced confidence in the teachers and enabled to deliver lesson on the basis of specific objectives, saved a lot of time, arrested the attention of learners, enhanced correlations between the concepts and teaching resources, stimulated the teacher to ask striking questions and provided more freedom in teaching.

The daily lesson plan consists of clear guides that made everything easier to set specific objectives to teach the lesson, required time budget to complete the lesson, list of materials to be used and learning assessment questions to check lesson objectives.

In the daily lesson plan, trainees found it easier to design lesson plans, set sequential concepts lesson planning with eventual activities to extend skills and assessment questions to check the mastery of taught skills, provided feedbacks, discussions and wrapped up lessons within the budgeted time.

According to Milkova (2016), a daily lesson plan is a strategic teaching and learning trajectory description of the subject of teaching developed by a teacher to guide class learning. It is teacher's road map of what students need to learn and how it will be done effectively.

This is true for the study that the daily lesson plan was more than 60% useful and learners were capable to do that much practical activity. A daily lesson plan is useful to design how children develop knowledge and experience through active learning (Uttamand Nayak, 2005).

Contrary to the daily lesson plan, in the weekly lesson plan, specific objectives of a particular lesson topic were not clearly listed and mish-mashed without separation for each lesson topic to be taught in each day. The time budget, lesson presentation steps, resources and assessment techniques to be used were not clearly set and listed properly, it was irrelevant and confusing in which the classroom teaching turned to traditional methods.

Once the teacher has outlined the learning objectives of the week, mostly from Monday to Friday for the class meeting, the detail teaching processes and designed practical activities for each lesson topic remained untouched.

In weekly lesson plans, the uses of supportive materials and conducting designated activities were ignored and more than 60% of the portions omitted. The weekly lesson plan did not exactly facilitate everything as planned and both students and teachers were not satisfied on how and what to do. Correlations with the textbooks of the class in which the teacher must take great care to teach prescribed portions of syllabi were not successful

as prescribed.

Yadav (2004), states that a proper lesson planning is a key to effective teaching in which the teachers must know the subject matter and mode of delivery in advance.

The balance between content coverage and learning objectives to ensure that students have understood and realized learnt items in practice were not effective through the weekly lesson plan.

Lesson planning scrutinizes some of the artifacts connected with contents and extents to which assessments works and progress have been exercised (Kamat and David 2009).

The comparative evaluation of daily visa-a-vise weekly lesson plans was concluded with the successfulness of daily lesson plan in presenting and transferring practicable knowledge to learners on topics to be taught for the particular period of time.

According to (Lovegrove, 1961), educational planning should include all portions to be covered within the given time budget and related topic contents to be undertaken.

## CONCLUSION

The comparative study on both the daily and weekly lesson plan was concluded by the upper hand successfulness of the daily lesson plan. The daily was one of the trajectory designs to develop the delivery and management of a lesson designated to be taught during a single day. The daily lesson plan has clearly ordered sets of contents like specific objectives, lesson delivery methods, recapitulations and assessment questions that guide, support and facilitate the teachers to transfer knowledge to learners properly.

## RECOMMENDATIONS

Based on the gained results, the researcher forwards the following statement of recommendations.

1. Lesson planning requires hard work that teachers have to value as the lesson proceeds, equally be aware of failure and success, and use the daily lesson plan for proper lesson delivery.
2. In using the daily lesson, concerned quality of education will be successful more effectively and truth is opposed to falsehood as very rudimentary.
3. Teachers must take great care to use the timely renovated and standardized daily lessons plans in teaching prescribed curricula of biology classes.

In using the daily lesson plan, successfulness of both teachers and students is seen in reality and whereas the uses of the weekly lesson plan in teaching biology was ineffective and learners could not achieve required academic performances in doing practical activities, which

requires further researchers on educational planning.

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