

# Development of online instructional materials for playing drums set to support the learning of critical twenty-first century skills

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## Abstract

This study aimed to 1) examine the value of utilizing a drum set practice kit in assisting students in developing their knowledge of critical 21<sup>st</sup> century skills; and 2) examine the noteworthy influence of utilizing online media in enhancing the interactive learning environment for students. According to the study's findings, the experimental group-thirty high school students-was considerably satisfied with using online teaching resources when they practiced playing the drum set. Additionally, the measurement's results were deemed to be quite satisfactory. Furthermore, based on the observation including participation, it was discovered that the environment of online learning may foster skills that allow students to apply the knowledge they have acquired to their everyday lives, which is in keeping with the idea of teaching in the twenty-first century.

**Keywords:** Development of online instructional materials, Drum set practice training kit, Twenty-first century skills

## Introduction

Learning cultures around the world have emphasized the value of participatory learning in the twenty-first century, with students at the center of the process and teachers or instructors assisting them. This research study decided to use the flipped classroom approach to learning in order to improve the learning outcomes for guitar.

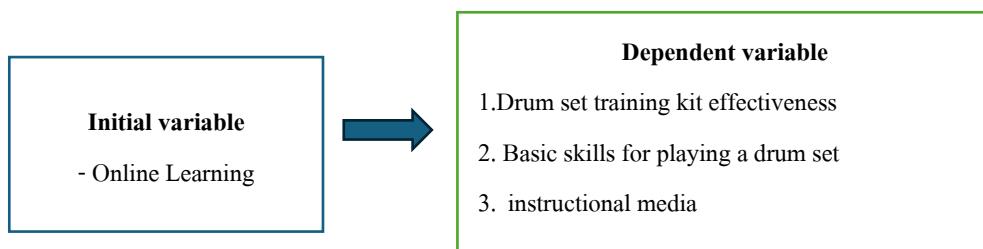
The flipped classroom format was created by Jonathan Bergman and Aaron Sams to help students who had trouble keeping up in class because of extracurricular activities, sports, or delayed learning absences. Flipping the Classroom was designed to help busy kids, hardworking weak students, and kids with different skill levels by changing the teacher's teaching style from lecturing in front of the class to being a trainer, teaching students to complete exercises or other activities in the classroom on their own, or acting as a tutor. It also aimed to use technology that modern kids are accustomed to, known as "ICT," or bring the school world into the learner's world, which is the digital world. (Bergmann, J., & Sams,

A., 2022) Therefore, the flipped classroom model emphasizes digital learning at home while using classroom time for in-depth practice, meeting the needs of learners in the digital age.

The COVID-19 virus has had an impact on people's lives all across the world since its outbreak in 2019. The "new normal" is a new way of life that has been brought about by numerous parties around the world coming up with new solutions to deal with the viral pandemic. This is especially true for the education sector, which has been badly impacted like all other sectors. The government's release of policy on preventative and response measures has created new norms that have never existed in society before, such as registering and holding remote meetings, until the education sector adopted remote learning or fully online learning. Online media are now used to organize teaching and learning to deal with the closure of the classroom. There is no requirement that teachers and students be in the same classroom. It is a brand-new method of education in Thai society. Furthermore, however, the pandemic is not the sole factor influencing school closures. Also, because of the PM 2.5 issue, there are already announcements of orders to close educational institutions or calls for cooperation in closing educational institutions. The limits of technology in music education do not allow it to be as effective as in-person instruction, but it is an alternative that may be tailored to the circumstances. Nowadays, the best way to deal with the issue of school closures is through online instruction. Moreover, it encourages active learning. This is an important talent in the twenty-first century. As a result, the flipped classroom should be studied and tested.

As a result, this study developed an online teaching kit to be utilized for testing with the research's target group to determine whether online learning management that focuses on participatory learning is a learning method that can improve critical abilities in the twenty-first century. The results indicate a positive direction. There is a high likelihood that the online teaching package, Basic Drum Practice Skills for High School Students, will significantly improve basic drum practice skills. It also contributes to the creation of a learner-centered classroom environment in which teachers facilitate students, which is congruent with the twenty-first-century notion of teaching and learning.

### Theoretical Framework and Related Concepts



## Research Objective

1. To study the significance of employing a drum set practice training kit to improve learners' knowledge of vital abilities in the twenty-first century.
2. To study the significant impact of employing online media to improve the interactive learning environment for students.

## Methodology

This is qualitative research using the following research methods:

1. Preparation Process The researcher examined the literature, including records and relevant studies. After analyzing the literature and related studies in terms of knowledge, history, and background, including concepts related to learning management in the twenty-first century and the creation of teaching media to develop drum set practice skills, the researcher analyzed, compiled, and compiled the following research tools:

- Research tools were reviewed by three experts.
- An online lesson plan on drum set practice skills for high school students.
- Online teaching set: Online teaching kit basic drum set practice skills for high school students

2. Field data collection in this field study, when an online teaching set on basic drum set practice skills for high school students was obtained, the researcher used formal and informal participatory interviews and observations by human research ethics principles. The human research ethics consideration process was submitted to the Suan Sunandha Rajabhat University Institutional Review Board to record data from field data collection and audio-visual data collection. The researcher next tested it on the sample group, which was as follows:

- Sample population: High school students. In the academic year 2023, a total of 30 students from 15 schools.

3. Data Management and Analysis. Data from documentation and field investigations were analyzed to ensure alignment with research objectives before being sorted and presented.

## Research Results

Currently, teaching and learning are being adjusted to align with teaching and learning management to improve abilities for the twenty-first century. Such learning abilities stem from the emphasis on generating participatory teaching and learning. Teachers must change their teaching methods, shifting from being the center of the classroom to facilitating students, to help students develop their thinking and analytical skills and apply classroom knowledge appropriately in their daily lives. Following the crisis of the Covid-19 outbreak, which has significantly impacted society and created a New Normal for the education sector, online teaching and learning has been adapted to cope with the government's



announcement to close classroom teaching and learning, transitioning to online learning or remote learning in a full system, which has resulted in rapid technological advancements and innovations for educational use. The development of teaching kits for teaching musical talents has been ongoing in preparation for the eventuality in which the government has announced the closure of educational institutions in the future. As a result, the researcher created an online teaching kit titled online teaching kit basic drum set practice skills for high school students, which would be utilized for experimentation with a sample group and data analysis. The research findings were then deliberated upon, with the following research objectives: 1) To study the significance of employing a drum set practice training kit to improve learners' knowledge of vital abilities in the twenty-first century. And 2) To study the significant impact of employing online media to improve the interactive learning environment for students.

After testing the online teaching kit basic drum set practice skills for high school students with a sample group, it was discovered that it could significantly improve learner performance and was effective in meeting the set standards. This is because online teaching and learning focuses on listening, practicing drum set abilities, and reading music notes, all of which are enjoyable activities that do not create an extremely stressful learning environment. In addition, learners can easily observe and review. As a result, students learn outside of the classroom, which leads to self-education and broadens their knowledge base in the online world. Furthermore, when the learners feel involved in the teaching and learning process because when they follow the media they have received, review it, and have questions, they can discuss and create conversations about learning with the teacher, creating a good learning environment that improves logical thinking skills, which is an important factor in learning in the twenty-first century.

The significant results found that the online teaching kit basic drum set practice skills for high school students, which has important components of 1) content about basic drum practice skills training with drum notes and 2) teaching media for drum practice skills training using learning drum sounds from counting numbers using different colors as a tool for memorization, can enhance learners' interest, create a good atmosphere, and create a learning environment in which learners It also helps students improve their drum practice faster. It also helps students utilize what they've learned outside of class to advance their academics. The results of the research revealed that when students learned before and after utilizing online media, the efficiency value of  $E1/E2$  was  $80.38/90.89$ , indicating that such an online learning medium is effective based on the established criteria. It also looks to be greater than the stated threshold of  $80/80$  (Siriwongsuwan, R., 2022). Furthermore, such online learning kits are not overly demanding, can be tailored to specific conditions, and do not include teaching and learning in which the teacher is the primary source of knowledge.

In addition, such online teaching kits are less stressful, can be tailored to specific conditions, and do not place the teacher at the center of knowledge. It is a learning

management system that enables learners to participate. Furthermore, because students can attend classes at any time and from any location, it improves convenience and accessibility to sessions. Participatory observation revealed that the learners were highly satisfied. As a result, such teaching mediums can help students develop crucial abilities in the twenty-first century.

## Conclusion

**The significance of employing a drum set practice training kit to improve learners' knowledge of vital abilities in the twenty-first century.** This type of development process began in 2007 when two science professors, Jonathan Bergmann and Aaron Sams, taught high school students at Woodland Park High School in Woodland Park, Colorado, USA. They began producing videotapes of teaching issues for students to study at home, and they allowed students to bring the results of their self-learning studies within the discussion process to find the answer in the classroom again. The teacher served as a facilitator in organizing such learning opportunities. This learning method is known as a flipped classroom, and it is based on the original concept of studying the information at school and then taking the work home to complete. By learning the material at home on their own and then using the work or experience gained to learn more at school with friends. The teacher will offer advice and explanations for the points in the answer that occurred. This model has been extended and broadened in scope, particularly for usage with other types of materials that have significant effectiveness today.

The Flipped Classroom teaching strategy aims to bring things done in the classroom home and things assigned to accomplish at home back to the classroom. It is founded on the idea that pupils only need to see the teacher when they need support. They do not want the teacher to be in the classroom to teach the topic because they can learn it on their own. It would be preferable if the teacher recorded a video of the lesson for students to watch as homework and used the classroom to aid students in understanding the material. In the "flipped classroom," the teacher will offer material for pupils to study ahead of time at home. When the students return to class the next day, they will ask questions and then do the allotted work individually or in groups, with the teacher providing advice to answer queries (Phanit, W., 2013). The concept of a flipped classroom is crucial in structuring the teaching process since it shifts teachers' time from imparting content in the classroom to completing numerous activities to improve the learning experience for students. The teacher's lectures are switched to other channels, such as video media or internet videos, which students can watch while they are not in the classroom or at home. As a result, giving homework for students to complete outside of the classroom or at home will become part of classroom activities, and vice versa. The content that teachers lecture in the classroom will be converted into media that students can read, watch, and listen to at home or elsewhere as needed. Teachers may provide projects or summarize ideas based on the topic



to assess students' comprehension and encourage them to talk, ask questions, or practice in class.

Flipped classroom teaching focuses on creating knowledge by the learners themselves according to their skills, knowledge, abilities, and intelligence according to each learner's learning ability from the mass of experiences that the teacher provides through media or exercises. It is a form of learning from outside the classroom independently in terms of both thinking and practice, which is different from traditional learning where the teacher feeds knowledge and experience. As a result, flipped teaching will fundamentally alter the role of the teacher. In other words, the teacher is not an information transmitter, but rather a tutor or coach who will spark and make learning enjoyable while also serving as a facilitator in the classroom. Teachers in the twenty-first century must adapt their learning management strategies to reflect societal and technological changes. Teachers must not only transfer their own expertise and experiences, but also provide direction on how to seek for knowledge so that students can find and access a plethora of information through numerous channels. They must also provide direction on how to apply what they have learned to their students' skills and experiences. This sort of learning is a key aspect of participatory learning, which stresses learners' roles and participation. Collaboration between students and teachers enables them to learn meaningfully.

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This method of instruction enables learners to construct knowledge from what they have learned in the classroom, with a focus on developing, applying, and connecting current skills to what the teacher has taught. As a result, learners can connect new knowledge to existing knowledge through a teaching and learning process that places the learner at the center of the activity, such as seminars, data exploration, literature review, and discussions, all of which emphasize the development of high-level thinking. In the flipped classroom, the teacher must be able to assess the learner's background, such as the learner's knowledge

set, interests, and experiences, in order to create interactions between the teacher and the learner, using discussions and exchanges, leading to the analysis of the learner's knowledge, in order to create conversations and guidelines for effectively guiding the learner. The flipped classroom is a learning management technique that prioritizes the learner. It is based on the idea that the most important goal of education administration is to motivate students to learn so that each student can develop to the fullest extent feasible based on their skills or potential. However, because each learner has distinct requirements, interests, aptitudes, and basic talents that are necessary tools for learning, the instructor is critical in directing such learning. The main notions of participatory learning management can be divided into two categories: taking into account the variety of the learners, and the teacher's function as a facilitator for the learners to think and learn independently. The instructor is not the one with power in the classroom.

**The significant impact of employing online media to improve the interactive learning environment for students.** The design and development of textbooks that are systematically implemented, with lesson quality evaluations from experts before being tested in the classroom, and teaching media that are modified to be easy to understand and not boring can create a stress-free environment in the classroom, resulting in effective memorization for learners. (Clark and Mayer, 2003) It is obvious that incorporating 21st-century education concepts into online teaching, such as the Flipped Classroom concept, may boost flexibility in teaching and learning while also establishing a learner-centered learning environment that motivates students to learn more. Furthermore, online media allows students to examine and practice anytime they want. It encourages pupils to learn outside of the classroom, increasing their responsibility. The use of online media to promote musical practice skills for high school students can be concluded as an appropriate teaching format for the context of high school students who are interested in practicing drum sets, as such online media has been tested and found to have significant effects on developing knowledge and skills in playing drum sets effectively. It also promotes the idea of learner-centered education, in which teachers facilitate the study. The study's findings also revealed that participants who used such media had a positive attitude about learning in this online education format. Consistent with Boonsinwattanakul, K., (2019). Teaching management is at the heart of educational quality development, ensuring that students have the skills and growth they need to thrive in the twenty-first century. As a result, teachers must produce learning media that are congruent with current technology and innovation in order to constantly inspire curiosity and boost learners' attention (Boonsinwattanakul, K., 2019).



Figure 1 Online teaching kit basic drum set practice skills for high school students (Vol. 1-3)

Source: Author (2025)

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