Integration of Dick and Carey Design in String Ensemble Class Instructional Material Design

Shafizan Sabri[a*], Mahayuddin Abdul Rahim[b], [a,b]Department of Music and Music Education, Faculty of Music and Performing Arts, University Pendidikan Sultan Idris, 35900 Tanjung Malim, Perak, MALAYSIA, Email: [a]shafizan@fmsp.upsi.edu.my

The adaptation of systematic instructional design models by faculty members in higher education is an emerging field; research conducted on its impact is needed in order to foster better educational practices. This paper portrays the processes involved in designing instructional material for teaching intermediate university-level string ensemble classes. The designing process, which involved the Dick and Carey systematic design of instruction, is presented in detail for reference and any future replication purposes. To date, relatively little research has documented the application of the Dick and Carey design system in a Malaysian educational setting, despite the range of available articles. This article would be of great benefit to Malaysian educators to have examples from local Malaysian practice settings upon which they can reflect, personalise and adopt these approaches in their teaching practice.
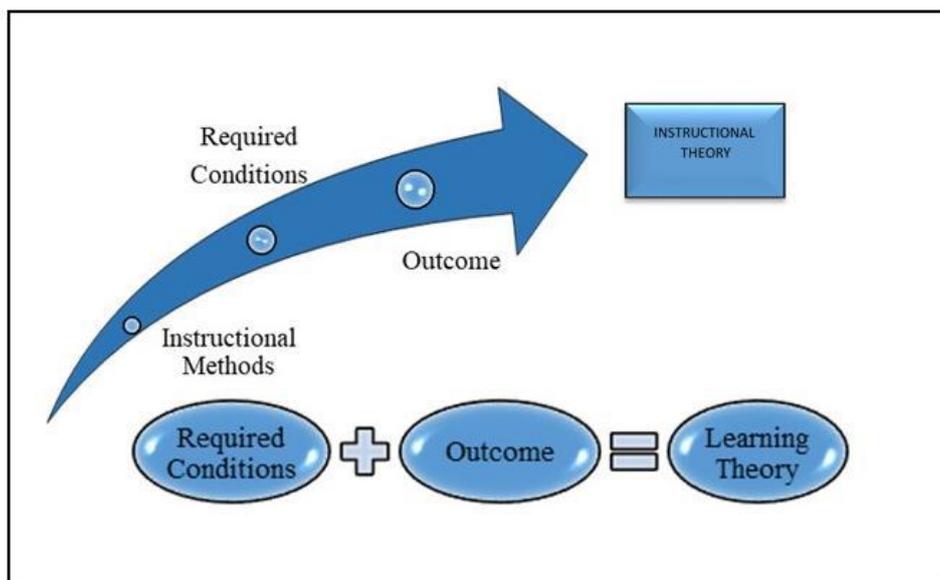
Key words: *Instructional Design, Learning Theories, Dick and Carey Model, String Ensemble*

Background

A typical classroom consists of students with varied capabilities, which requires the teacher to apply mixed strategies in the process of developing effective and efficient instructional materials. In order to be an effective teacher, planning is imperative in the preliminary development phase. Thus, instructional design is an appropriate planning tool, since it is systematic in nature and deeply-rooted in learning theories for designing successful instruction.

In a chapter entitled Gagné's Theory of Instruction, Driscoll (2005) clarifies the relationship between instructional theory and learning theory, as depicted in Figure 1.

Figure 1. Relationship between instructional theory and learning theory

According to Driscoll (2005), the instructional method is added to the learning theory equation, which develops into instructional theory. Instructional theory provides teachers and instructional designers with a coherent and concise framework from which to improve teaching and learning. Instructional methods, on the other hand, direct the instructor towards achieving the desired learning outcome. Gagné's theory of instruction provides an inclusive manifestation of instructional theory. Dick, Carey and Carey (2005) also maintain that their works were greatly inspired by Gagné's work, which was greatly influenced by the behaviourist approach as he believed that instruction is the central factor for learners to react appropriately to the inspiration provided by the teacher.

Instructional designers use theory to guide their projects in providing innovative learning experiences. Despite the fact that instructional design was heavily influenced by learning theories, it is important for designers to differentiate learning theories and instructional theories. Table 1 provides an overview of the difference between learning theories and instructional theories.

Table 1. Difference between learning theory and instructional theory

	Learning Theory	Instructional Theory
Branch & Stefaniak (2019, p.88)	Focus on the effects of the learner.	Focus on the effects of instructional delivery and learning process.
Honebein & Reigeluth (2020, p.1)	A set of ideas about how people learn, such as behaviourism, cognitivism, and constructivism. (p.1)	A set of ideas for how best to help people. (p.1)
	Descriptively explains the "what happens" of the learning process, typically what might be going on in the learner's head. (p.3)	Prescribe methods for "how" one might effectively, efficiently, and appealing learn. (p.4)
	Does not include any methods. (p.3)	Involves a collection of one or more instructional methods that best fit one or more designated situations. (p.3)

The Concept of Instructional Design

Branch and Stefaniak (2019) define the term instructional design as a "complex process that promotes creativity during development and results in instruction that is both effective and appealing to students" (p.88). Instructional system design symbolises the complete schema involved in any instruction, no matter what domain they are used in. Instructional design follows the stages of analysis, design, development, implementation and evaluation – generally known as ADDIE. Dick, Carey and Carey (2005) maintain that an instructional system consists of interconnected components that operate together to enhance learning. Instructional designers agree that instructional design facilitates educators in planning successful and appropriate instruction. They propose that the entire instructional system incorporates interactions between

ADDIE components, thus ensuring balance between devised goals, strategies, evaluation process and the effectiveness of the designed instruction. Molenda (2015), a professor of instructional technology, concludes that ADDIE is just an informal term employed by scholars to portray the fundamental concepts in an instructional design system. He further emphasises that ADDIE is merely "an umbrella term", or an ellipsis used to illustrate the process involved in instructional system development.

Analysis, as the first step in instructional design, involves analysing learners, setting and context. In the design stage, objectives are determined for the proposed course and strategies and tactics are formulated to accomplish the stated objectives. In the meantime, the materials utilised to execute the strategies are developed and assessed for effectiveness and appropriateness. In the implementation stage, the selected tasks are implemented. Ultimately, evaluation is intended to revise, improve and modify any flaws evolving during the instructional process.

Instructional Design Models

Gustafson and Branch (1997) indicate that the instructional model functions as a conceptual and interaction medium that can be employed to guide, construct and supervise processes in designing the handbook of learning. For that reason, this paper moves a step further in order to understand several distinguished models, such as those by Morrison, Ross and Kemp (Morrison, Ross, Kemp and Kalman, 2010), Dick and Carey (Dick, Carey and Carey, 2005) and Smith and Ragan (Smith and Ragan, 2005).

Based on the review of instructional design models, it can be concluded that Morrison's, Ross and Kemp's, Dick and Carey's, and Smith and Ragan's models possess one similarity. They utilise the fundamental elements of ADDIE in the instructional planning and design involved in instructional system development. Conversely, the models' differences are elucidated in Table 2.

Table 2. Comparison of instructional design model

Characteristics	Morrison, Ross & Kemp	Dick & Carey	Smith & Ragan
Unique features	Flexibility	Systematic	Sequential
Orientation	Classroom oriented	Product Oriented	System oriented
Advantages	• Incorporates both behavioural and cognitive approaches • Process can start anywhere within the model • Can be used with minimal front-end analysis by beginner designer	• Contents are effectively organised for easy understanding • Strong point in the analysing and evaluation of instruction • A detailed step by step process and guide is provided to accompany the instructional design • Can be applied with numerous learning objectives • Modification applicable if changes in theory and media occurs	• For developing a specific instructional strategies • Emphasis on cognitive psychology and instructional strategies • Encourages learning advocacy • Supports alternative delivery systems
Disadvantages	• Only one approach or a combination of the two approaches can be included • Lack of connectivity between elements	• Focuses on the product rather than the system • Focuses specifically on the objectives in order to be successful • Assumes that learning can be predictable and reliable • Rigid and involves loads of stages	• A linear model • Not applicable for a complex format design • No specific objective delegation • Cannot be incorporated across different types of learning objectives

Learning Theories and the Practice of Instructional Design

The concept of instructional design was initially drawn from the epistemology of behaviourism, and progressed into a primarily cognitivist theory where instructional designers placed more emphasis on learners' cognitive and emotional learning endeavours. Behaviourism and cognitivism are both objective in nature. Nevertheless, instructional design practice has evolved from an objectivist (behavioural and cognitive) to a constructivist approach over the past two decades (Bonk and Cunningham, 1998; Jonassen, 1992; Mergel, 1998; Vrasidas, 2000; Weegar & Pacis, 2012).

Mergel (1998) elucidates that in instructional design, objectivists 'support the practice of analysing a task and breaking it down into manageable chunks, establishing objectives, and measuring performance based on those objectives' (p.15). Conversely, a constructivist approach focuses more on flexible learning. Nevertheless, cognitivism and constructivism are similar in that both theoretical perspectives see human thought processes as akin to processes undertaken by computers.

Considering the comparison made between behaviourism, cognitivism and constructivism, each learning theory has its own position in the framework of instructional design practice, which is subject to the circumstances and surroundings in which it is employed. In order for a designer to appropriately match the learner with the content and strategies, Ertmer and Newby (1993) suggest that designers should use the continuum of learning as a reference point. Based on where learners stand on the continuum, designers can create the most suitable instructional approach.

Designers should choose wisely when selecting an appropriate theory to use, based on learners' current capabilities and the types of learning tasks that are being taught. On the other hand, Vrasidas (2000) advises steering clear of the two outermost ends of the continuum of learning, and suggests that objectivist and constructivist approaches may be used where applicable, depending on the context, content, resources and learners.

Instructional Material Development

Lesson Design

1. Duration of Lesson

Each class met once a week and each class lasted for 60 minutes, with 14 weeks of lessons. Lesson designs ought to take the duration of the lesson into account so that the prepared lesson plan is practicable within the time frame.

2. Lesson Structure

In this intermediate string technique class, the lesson commenced with an introductory section, which involved the process of tuning the instruments and a concise warming up session. Following this was the central section of the lesson where lesson content was delivered. In the closing section of the lesson, discussions for future lessons were made, and attendance was marked.

Table 3. Lesson structure

	Details
Introductory section	Tuning and warming up are a common practice for most instrumental music lessons. In this intermediate level class, students will learn to tune their instruments themselves, while instructors scaffold whenever needed.
Central section	The central part of the lesson is the extensive part of the lesson and consists of interactions between students and teacher during delivery of the lesson content. In this part, instructors were to deliver the content according to the prepared lesson plan created by the researcher.
Closing section	The closing section is when the instructors discuss, make arrangements for future lessons, as well as take attendances of students.

Lesson Content

Intermediate string technique classes' performance goals and objectives are built on the bowing, instrument position, as well as right and left-hand techniques (Hamann and Gillespie, 2009). In this study, the designed lesson content is tabulated in Table 4.

Table 4. Lesson content

Lesson Content	Details
1. Bowing, instrument position, right and left-hand technique	The purpose of this lesson content is to introduce students to intermediate bowing, right and left-hand skills
2. Tone production	Tone production or sound generation involves an outstanding aural perception skill, applicable in string, brass, woodwinds or percussion. In order to develop the skill, this lesson content educates students by means of modelling by instructors, followed by imitation by students.
3. Pizzicato technique	The purpose of this lesson content is to teach students pizzicato technique, which is a playing technique that implicates plucking the strings with fingers instead of playing using the bow. The specific technique differs subjected to the type of stringed instrument. This delivers an altogether different sound from bowing, short and percussive as opposed to sustained. Usually, the strings are plucked with the meat of the fingers.
4. Basic spiccato technique	The purpose of this lesson content is to introduce students to basic spiccato technique. Spiccato is a stroke that involves bouncing the bow on the string.
5. Col legno technique	This lesson content aims to introduce students to an intermediate string technique named col legno. This technique plays with the wood of the bow. Using this technique, students will learn to play out a specific entry by hitting the strings with the wood of the bow as opposed to with the hair – the strings (for instance, of a violin) are to be hit with the wood of the bow, making a percussive sound.

(Continued)

Table 4 (Continued). Lesson content

Lesson Content	Details
6. Refining instrument position	This lesson content may assist students in establishing and refining instrument position. Students will be taught to develop intermediate bowing, left-hand skills and music while maintaining a desirable instrument position.
7. Note reading (pentatonic scale)	In this lesson content, students are introduced to the pentatonic scale.
8. Pizzicato, spiccato and col legno	In this lesson plan, students will be assisted to develop their skills to play the previously learned bowing technique combinations.
9. Selected ensemble pieces for intermediate level	Students will be presented with hybrid ensemble pieces for practicing and assessment purpose.

Instructional Material Planning

The instructional material for teaching intermediate university-level string ensemble class using gamelan repertories was designed with the basis of the framework being Dick and Carey's (Dick, Carey and Carey, 2005) model. Ten stages were involved in designing the model. The stages are:

   i.   Identify instructional goal

  ii.   Conduct instructional analysis

 iii.   Analyse learners and contexts

 iv.   Write performance objectives

  v.   Develop assessment instruments

 vi.   Develop instructional strategy

 vii.   Develop and select instructional materials

viii.   Design and conduct formative evaluation of instruction

 ix.   Revise instruction

  x.   Design and conduct summative evaluation

First Stage: Identify Instructional Goals

In the first stage of the design, instructional goals (see table 5) were identified and put in writing to initiate instructional material development. Consequently, evaluations were made to scrutinise the congruence between goals, learner qualities, learning and performance perspective, as well as obtainable tools.   In this study, the instructional goals were determined utilising the proposed lesson content as the framework.

Table 5. Instructional goals for intermediate string technique class

Lesson Content	Instructional Objectives
1	• Be able to demonstrate consistent parallel bowing and smooth direction changes. • Be able to demonstrate consistently acceptable left-hand shape.
2	• Be able to demonstrate acceptable tone production at different dynamics levels.
3	• Develop good note reading skill: read and name notes in pentatonic scale.
4	• Be able to play pizzicato with a good sound.
5	• Be able to perform bow styles and bowings of spiccato.
6	• Be able to perform col legno technique with a good sound.
7	• Be able to demonstrate consistently lengthened and balanced body posture. • Be able to demonstrate consistently acceptable instrument position.
8	• Be able to perform with combinations of developed pizzicato, spiccato and col legno techniques.
9	• Be able to play song with correct tone production, intonation, posture, left hand technique and bowing technique for individual performance assessment. • Be able to play song with correct music reading, tempo, rhythm, dynamic level and interpretation for ensemble performance assessment. • Develop the understanding, skills, and techniques to perform music appropriate for the intermediate string ensemble.

Second Stage: Conduct Instructional Analysis

In the second stage, instructional goals were classified according to the following domains:

    a. Intellectual skill

    b. Verbal information

    c. Psychomotor skill

    d. Attitude

Classification details of instructional goals can be found in Table 6.

Table 6. Classification of instructional goals by learning domain

Instructional Goals	Learning Domain
• Be able to demonstrate consistent parallel bowing and smooth direction changes.	Psychomotor Skill
• Be able to demonstrate consistently acceptable left-hand shape	Psychomotor Skill
• Be able to demonstrate acceptable tone production at different dynamics level.	Psychomotor Skill
• Be able to play pizzicato with a good sound.	Psychomotor Skill
• Be able to perform bow styles and bowings of spiccato.	Psychomotor Skill
• Be able to perform col legno technique with a good sound.	Psychomotor Skill
• Be able to demonstrate consistently lengthened and balanced body posture.	Psychomotor Skill
• Be able to demonstrate consistently acceptable instrument position.	Psychomotor Skill

(Continued)

Table 6 (Continued). Classification of instructional goals by learning domain

Instructional Goals	Learning Domain
• Develop good note reading skill: read and name notes of pentatonic scales.	Intellectual Skill and Verbal Information
• Accurately sight-read musical examples in the pentatonic scales.	Intellectual Skill
• Be able to perform with combinations of developed pizzicato, spiccato and col legno techniques.	Psychomotor Skill
• Be able to play song with correct tone production, intonation, posture, left hand technique and bowing technique for individual performance assessment.	Psychomotor Skill
• Be able to play song with correct music reading, tempo, rhythm, dynamic level and interpretation for ensemble performance assessment.	Psychomotor Skill
• Develop the understanding, skills and techniques to perform music appropriate for the intermediate string ensemble.	Attitude

In addition to conducting a goal analysis, the second stage of Dick and Carey's model includes the identification of subordinate skills and entry behaviours. In the identification process, the aforementioned instructional goals are analysed accordingly and are tabulated in Table 7.

Table 7. Subordinate skills analysis

Type of Instructional Goal	Type of Subordinate Skills Analysis
Intellectual skill	Hierarchical
Psychomotor skill	Hierarchical
Verbal information	Cluster
Attitude	Hierarchical and cluster

Consequently, the entry behaviours were identified and represented by a dotted line below the skills that will be acquired and above those skills that will not be taught in the subordinate skill

analysis diagram. An illustrated example of cluster analysis for verbal information can be found in Figure 2, cluster analysis for intellectual skill in Figure 3, cluster analysis for psychomotor skill in Figure 4, and finally cluster analysis for attitude skill in Figure 5.

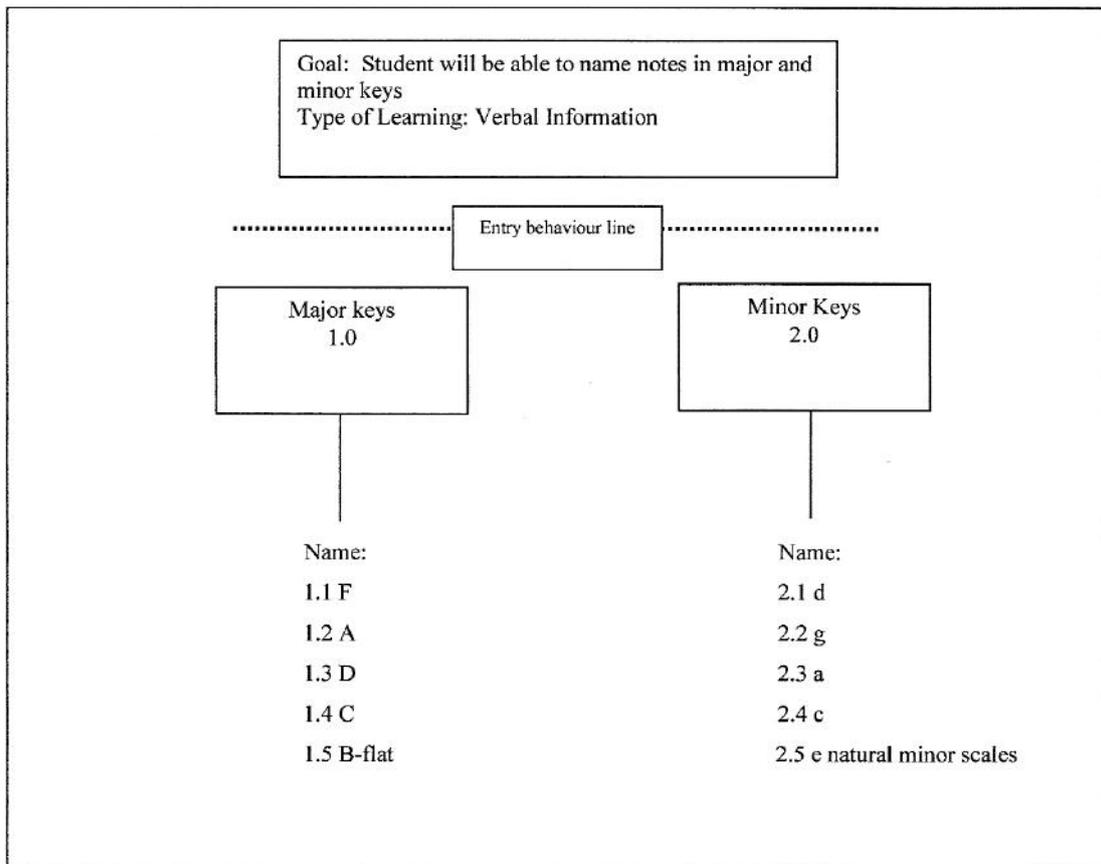**Figure 2:** Cluster analysis of verbal information
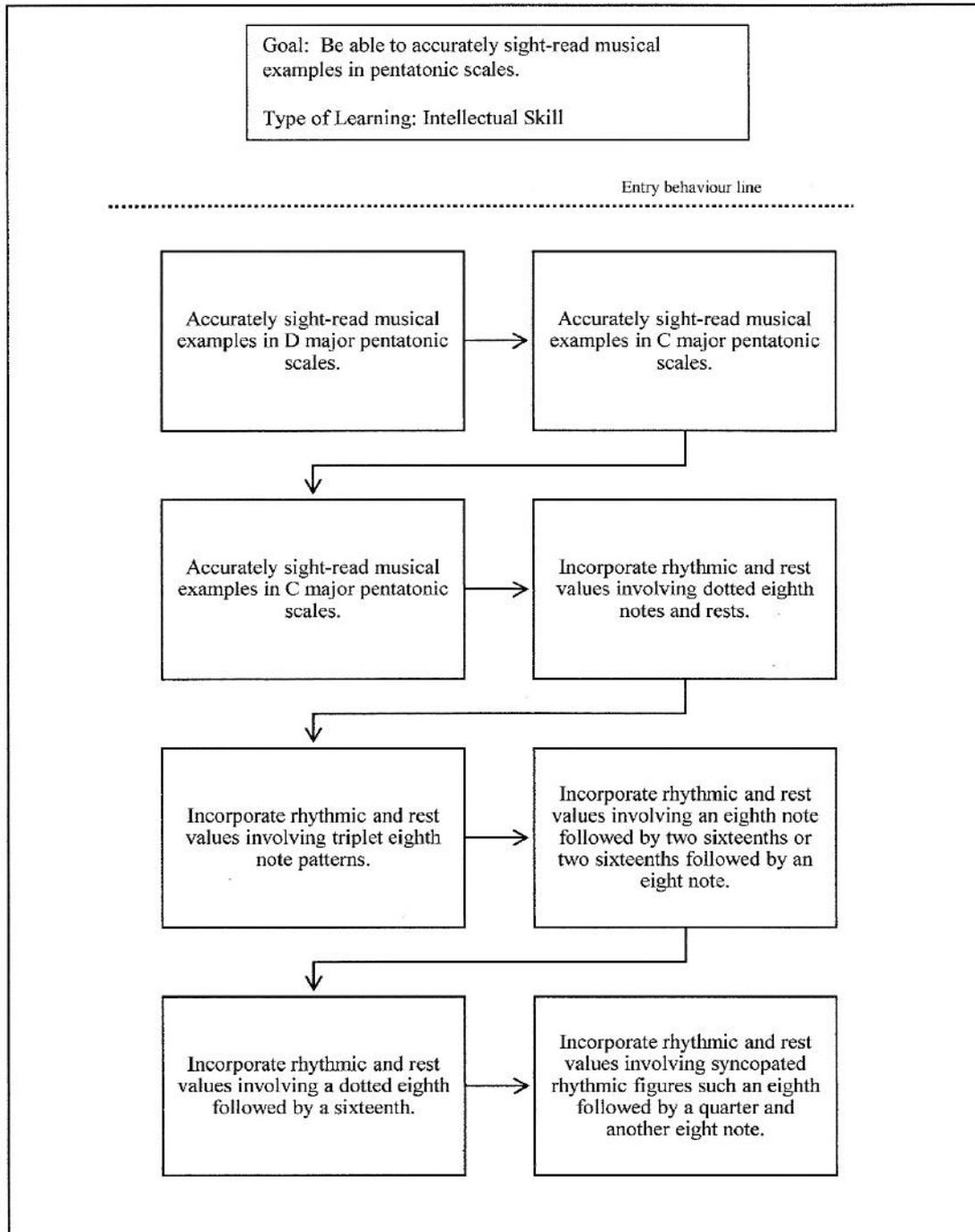
Figure 3: Hierarchical analysis of intellectual skill

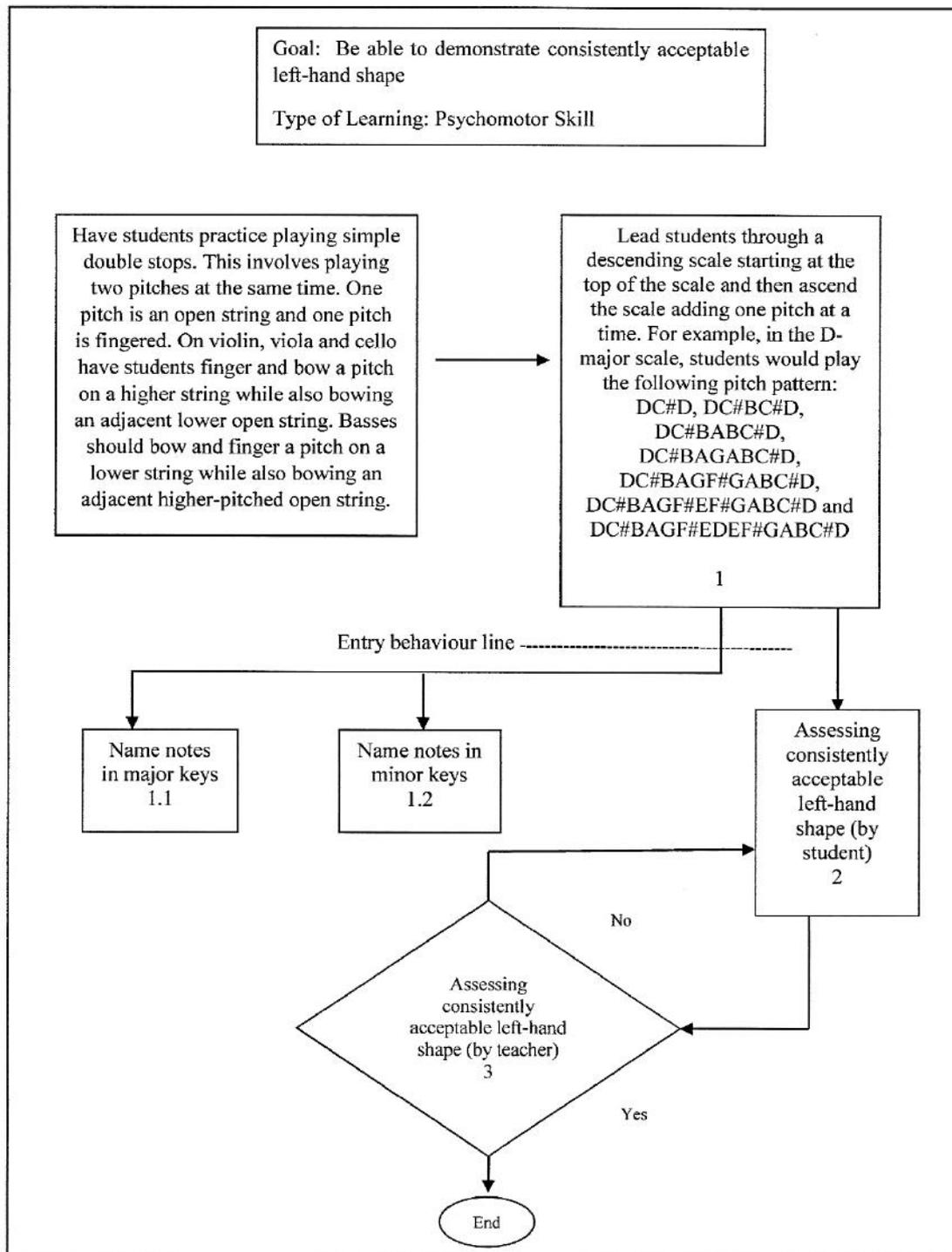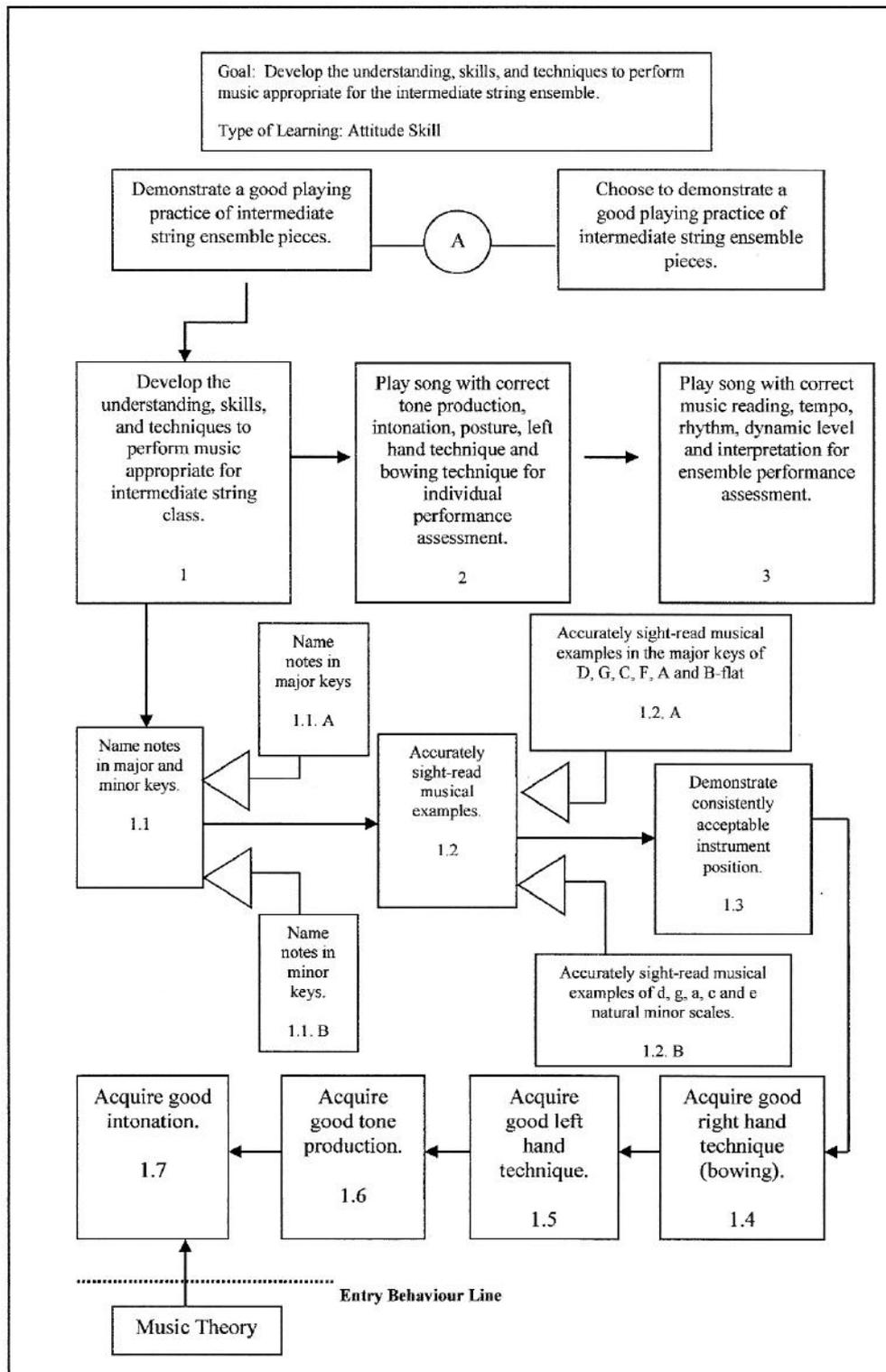**Figure 4:** Hierarchical analysis of psychomotor skill

Figure 5: Hierarchical analysis of an attitude skill

Third Stage: Analyse Learners and Contexts

In the third stage, analyses were conducted to scrutinise learners, performance context and learning context. In the process of learner analysis, information regarding the common characteristics of the target populations was analysed according to the following criteria (Dick, Carey and Carey, 2005, p.101):

     i.   Entry behaviours

    ii.   Prior knowledge of topic area

    iii.   Attitudes toward content and potential delivery system

    iv.   Academic motivation

    v.   Educational and ability levels

    vi.   General learning preferences

    vii.   Attitudes toward training organisation

    viii.   Group characteristics

Analysis of learner context for intermediate string technique class is provided in the following table.

Table 8. Learners' characteristics analysis in the intermediate string technique class

Information Categories	Data Source	Learner Characteristics
1. Entry Behaviours	Questionnaire: Target Learners	University-level (diploma or degree) music students who had attained approximately the same level of music theory and aural training skills beforehand and have prior beginner string music training
2. Prior knowledge of topic area	Questionnaire: Target Learners	Since learners possess previous learning experience in beginner string technique class, they should have mastered the basic knowledge in this particular field.

(Continued)

Table 8 (Continued). Learners' characteristics analysis in the intermediate string technique class

3.	Attitudes toward content	Questionnaire: Target Learners	Learners are positive about learning the new skills to facilitate them developing a good intermediate string technique class skill.
4.	Attitudes toward potential delivery system	Interviews: Target Learners	Learners are positive about learning the new skill as the new instructional material includes integration of technological pedagogues and the instruction is more learner-centred.
5.	Motivation for instruction	Observations	Learners are highly motivated since they have voluntarily participated in the study.
6.	Educational and ability levels	Observations	Educational: Learners' age ranges from 17-30 years old and each possesses a minimum of SPM certificate. Ability: Learners are extremely heterogeneous in their achievement/ability levels in terms of learning style and modalities preference.
7.	General learning preference	Interviews: Target Learners	Learners have no prior preferences

In analysis of performance context, the researcher explored the characteristics of the research site in which the instructional design will be employed. The performance context analysis includes analyses of managerial or supervisor support, physical aspects of the site, social aspects of the site and relevance of skills to the institution. Analysis of performance context for beginning string technique class is provided in Table 9.

Table 9. Performance context characteristics analysis in the intermediate string technique class

Information Categories	Data Source	Performance Site Characteristics
1. Managerial / super-visory support	Observations	Reward system: student-centred learning. Nature of direct supervision; Instructors are supervised by instructional designer.
2. Physical aspects of site	Observations	Facilities: well-equipped for ensemble setting Equipment: Students were provided with appropriate instrument for intermediate string technique class lesson.
3. Social aspects of site	Observation	Supervision: None Interaction: Interaction between instructor and learner
4. Relevance of skills to institution	Observation	Meet identified needs: enrich available pedagogues' material for intermediate string technique class in Malaysia. Current application: Appropriate for intermediate string technique class lesson. Future application: Appropriate for other intermediate instrumental classes.

Analyses of learning context (provided in Table 10) consist of determining what is and what should be. From this, a handful elements are proposed to be considered as the focal point in the analysis of learning context.

Table 10. Learning context analysis in the intermediate string technique class

Information Categories	Data Source	Learning Site Characteristics
1. Number / nature of site	Site visits and observations	Number: Multiple sites throughout Malaysia Facilities: Ensemble room in public universities

(Continued)

Table 10 (Continued). Learning context analysis in the intermediate string technique class

Information Categories	Data Source	Learning Site Characteristics
1. Site compatibility with instructional needs	Site visit and observations	Instructional strategies: Lesson plan employed in intermediate string technique class. Delivery approaches: Trained instructors carrying out lesson plan in class. Time: 14 weeks of instruction
2. Site compatibility with learner needs	Site visit and observations	Location: situated within universities facility Conveniences: Well-equipped facility Space: appropriate for ensemble setting Equipment: Appropriate for ensemble use
3. Feasibility for simulating institution	Site visit and observation	Social characteristics: The learning site acts as the performance site as well. Learners will receive the instructional material during intermediate string technique class lessons.

Fourth Stage: Write Performance Objectives

Performance objectives refer to the specific explanation of what the particular student will achieve upon completing the particular instruction. Examples of performance objectives in the aforementioned psychomotor skills of acquiring consistently acceptable instrument position are provided in Table 11.

Table 11. Example of psychomotor skills and matching performance objectives

Steps	Matching Behavioural Objectives
1. Bass (standing)	The right back edge of the bass should rest on the player's left groin. The instrument should be balanced by the body; only the floor and the groin should support the bass. The pitch A on the A string should be over the left shoulder at eye level. The bass should rest against the abdomen at an angle, with no further left-hand support needed. The inside of the left knee should touch the back of the bass. The hip and legs should be flexible.
2. Bass (sitting)	Both feet should support the bass – the right foot by the floor and the left foot by the rung of the stool. The instrument should lean into the centre of the body, resting on the left thigh. Both pelvic bones should be on the stool. The hip and legs should be flexible.
Goal: Assessing instrument position goal for bass (by student)	While holding a string instrument in standing and sitting positions, adjust the instrument so that both hands and arms are comfortable. Each step in the procedure will be performed in sequence and according to the specified behavioural objective.

Fifth Stage: Develop Assessment Instrument

In this particular study, the research instrument is essential for the purpose of evaluating learners' progress as well as the quality of the designed instructional material. Student performance assessments were employed to scrutinise learner performance in accomplishing each of the stated instructional objectives. Achievement of objectives in the intellectual and psychomotor domain was measured by employing performance assessments. Rubrics were utilised for assessing the established performance criteria. In this fifth stage of the Dick and Carey design, the congruence between the skills, objectives and assessment were evaluated. Table 12 demonstrates examples of congruence evaluation for the aforementioned for psychomotor in intermediate string technique class lesson instructional material.

Table 12. Design evaluation chart (psychomotor skills)

Skill	Performance Objective	Test Item(s)
Acquire correct tone production in playing any given piece	Given particular pieces, demonstrate a correct tone production.	The following criteria will be used to assess the psychomotor skill in individual performance assessment: • Good sound production • Consistency of tone production Rubrics for assessing individual performance assessment (circle one)

Unacceptable Performance	Fair Performance	Acceptable Performance	Outstanding Performance
1 2	3 4 5	6 7 8	9 10

Sixth Stage: Develop Instructional Strategy

In the development of intermediate string technique class instructional material, the instructional strategy was developed based on Gumm's (2003) music teaching style prototypes and the incorporation of teaching strategies based on a blended approach of objectivist and constructivist theory. The researchers developed lesson plans for each week. The intent of the lesson plans was for the instructor to follow the contents in conducting the intermediate string class throughout the 14 weeks of treatment. The lessons were 120 minutes in duration. The lesson plans were made up of an introductory section, central section and the closing section. The teaching strategies, namely modelling, communication, exploration and experimentation, were incorporated according to the suitability of the contents and learning outcome. The instructional material was supported with pedagogical use of new technology as additional teaching strategies, such as interactive media, audio visual and software, allowing the instructor to create an enjoyable and attractive learning environment in the intermediate string technique class.

A mix of objectivist and constructivist instructional design strategies were adopted for the design of the instructional material. The key element in a constructivist classroom is providing

meaningful learning. The intermediate string technique class was conducted in small ensemble groups to facilitate students engaging in music through a more interesting and meaningful way. Hence, the intermediate string technique class consisted of only 20 students, which is an ideal size for an intermediate string class.

As mentioned in the previous section, the first stage of the Dick and Carey's design involves the identification of instructional goals. These goals were presented to the students before the course commenced so that the students were aware of their ownership in the classroom. They were encouraged to work hard to comprehend what they experience in the moment and what they have already achieved beforehand. Consequently, the students will slowly develop their independence as musicians.

In the process of creating a constructivist music classroom practice in intermediate string technique class, the main focus of the teaching and learning process was on performing, creating and listening. The instructor walked around the classroom, scaffolding and receding where needed, to facilitate students working independently. In this blended objectivist-constructivist approach, symbolic modelling was used in the form of YouTube material. In this way, the instructor can walk around the classroom freely and provide scaffolding to students in need.

In addition to the abovementioned approach, learners in the intermediate string technique class were given the opportunity to work individually and with other group members through small heterogeneous group practice. Upon receiving the musical pieces, students were assigned to work in small groups to enable students to listen and cooperate with other students. By working together in small groups, students will listen to each other, provide support to each other and develop musical skills with minor help from the instructor. This exercise help students in getting used to group dynamics and in initiating the collaboration process by means of listening to their group members. Apart from that, students were assigned work in pairs and choose their own partner, with the attention to whether they are content with the person critiquing them. This classroom activity enables the student to reflect not only their own practice but their peer as well.

The constructivist classroom provided in the study facilitates students' learning through the discovery process. Hence the teaching strategies of communication, exploration and experimentation were adopted to promote innate musicality in university-level students. Exploration and experimentation help students in deciding the interpretation that suites them best. Students were required to reflect on their personal development and note their reflections in a journal. By doing so, students are made aware of their individual progress in both the theoretical and practical sides of learning music. Students were required to hand in their journal at the end of the course.

Seventh Stage: Develop and Select Instructional Materials

The summary of processes involved in developing and selecting the instructional material for intermediate string technique class is illustrated in the following table.

Table 13. Method of delivering instruction for intermediate string technique class instructional material

Instructor's Role in Designing Materials	Learning Components of the Instructional Strategy				
	Pre-instructional Activities	Presenting Information	Student Participation	Follow-through Activities	In-Class Quizzes and Performance Assessment
Instructor designs individualised instructional materials	Materials	Materials	Materials	Materials	Instructor/Material

Eighth Stage: Designing and Conducting Formative Evaluations

This section of the instructional material design process laid emphasis on the data assembling process from the target population regarding the practice and efficacy of the instructional material. At the outset, expert judgements were sought to verify the validity of the designed

instructional material: one traditional music expert and one string expert. The panellists were asked to review the instructional material, research instruments and complete the content validity form. Following this, a pilot study was conducted to test the viability and suitability of the blended approach instructional material. Data and information gathered from the pilot test were then used to improve the design quality. Finally, a field trial will be conducted involving universities in Malaysia. Ultimately, reports will document this trial, consisting of the design, procedures, results, recommendations and significance of the designed instructional material. Formative evaluations will involve data gathering during the field trial in the form of in-class quizzes and performance assessments to obtain useful information regarding students' achievement following the 14 weeks course.

Ninth Stage: Revise Instruction

Data will be gathered using the designed research instrument and these data will then be used in this stage to distinguish the flaws in the designed instructional material. The revealed problems will be considered in the process of revising the materials. In the process of analysing the assembled data, item analyses will be conducted in terms of item-by-objective analysis to determine each objective's difficulty, as well as the percentage of students who mastered the objectives.

Tenth Stage: Designing and Conducting Summative Evaluations

In this final stage, the strong and weak points in the instructional material were established with the intention of preserving or improving it. Summative evaluations involved data gathering in the form of satisfaction surveys to obtain useful information regarding students' feelings, attitudes and opinions about their learning experiences throughout the course. Based on students' responses, the values of the designed instruction were determined.

Discussion and Conclusion

The study conducted by Sabri (2018) suggests that a blended objectivist-constructivist approach fosters students' potential by means of providing a conducive learning atmosphere for university teaching. The current study replicates and extends the work by Sabri (2018), intending to design an instructional material for university-level intermediate students. The aim of this study is to provide a resourceful and supportive learning environment with an injection

of cultural hybrid elements to further enhance students' learning success.

A framework that combines learning theory epistemology and cultural hybrid theory was utilised to guide the design process, to encourage and promote enjoyable learning processes. The constructivist instructional design serves as a catalyst in providing meaningful learning, whereas the objectivist instructional design has the benefits of promoting efficient learning.

Scaffolding is the focal strategy inserted as it is the essential teaching approach for creating a learning support system. Learning instrumental music course often leads to student frustration whenever they fail to acquire certain techniques of playing. Thus, the instructor's close and continuous monitoring and assessing of students' performance during the learning process, and scaffolding whenever needed, provides succour to the success of students' learning.

Understanding the important elements in the framework of teaching and learning approaches would help educators to reflect and refine their current everyday practice. Improvements can be made to further improve the quality of the teaching and learning processes. The proposed framework is valuable to the researchers as music educators, just as it could be for other music instructors all through the nation. This study is beneficial in filling gaps in our knowledge, supplementing gaps pertaining to learning theory epistemology in the context of the Malaysian music setting. The framework reported in this article reflects instrumental music undergraduate course design. Educators could utilise this blended objectivist-constructivist approach in planning, designing and implementing any undertakings related to instructional material planning for different musical instruments courses, not to mention any other fields of university teaching courses.

The adaptation of a systematic instructional design model by faculty members in higher education is an emerging field in which to conduct research on its impact, to foster better educational practices. This paper portrays the complete processes involved in designing instructional material planning using the systematic design of instruction by Dick and Carey. The information presented might be useful for faculty members to enhance efficiency and performance towards becoming a more effective educator. The delineated theoretical framework aids in the design of instruction while instructional design models provide guiding

frameworks for the development of effective, appealing, consistent and reliable instructional material. To date, relatively little research has documented the application of the Dick and Carey design system in a Malaysian educational setting, despite the range of available articles. This article would be of great benefit to educators as an example from local Malaysian practice settings, upon which they can reflect, personalise and adopt these approaches in their teaching practice.

Acknowledgement:

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