



A handbook of
**THE COLLABORATIVE
INSTRUCTIONAL DESIGN
SYSTEM**





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THE COLLABORATIVE INSTRUCTIONAL DESIGN SYSTEM
(CIDS)

Transforming teachers, inspiring learners

A new dimension of engaging teachers collaboratively involved in the instructional design professionally and systematically for the current 21st-century learning and the future educational needs.

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2018.

THE COLLABORATIVE INSTRUCTIONAL DESIGN SYSTEM (CIDS)

PREFACE

The transformation of the education ecosystem is critically required particularly in the era of the information technology. The main aim is to enhance the quality of educational practices whilst creating an inspiring learning environment for learners, giving them an opportunity to determine their own learning activities as far as learner-centered approach is in practice. Much effort has been spent in providing e-learning applications to the learners, tools, and strategies for teachers. However, not much effort has been done in connecting the dots - integrating elements and requirements of the current educational needs, fulfilling the nation's educational policies and aspirations into a mechanism that helps teachers to have a wider perspective in the process of designing the instructions creatively, systematically and professionally.

The Collaborative Instructional Design System (CIDS) was developed as an option for educationalist in fulfilling the current educational needs especially the 21st Century education and the 4Cs learning needs (*critical thinker, communicator, collaborator, creator*), developing “globally competitive learners”, and learning opportunities regardless of their abilities. It is a new dimension at engaging teachers and other professional learning communities to be collaboratively involved in the 21st-century learning, facilitating and preparing learners to the Fourth Industrial Revolution – IR4.0, while facing the challenges of the newly emerging smart Society 5.0.

CIDS comprises The Integral ASIE Instructional Design Model (Ismail Md. Zain, Balakrishnan M. 2014, 2016). Its IHE features (integrative, hybrid, eclectic) has the capacity to collaborate with many elements in producing a highly-rich, effective and creative instructional planning activities. Aspects of the model are based on the proposed 21st-Century Learning Framework (21st Century Partnership, 2002) and Four-Dimensional Education (Centre for Curriculum Redesign, 2015). It has fundamentally encompassed the philosophical attributes of metaphysics, epistemology, axiology, ethics, and logic. These philosophical underpinnings strengthen the need for professional education player primarily classroom teachers to execute this model in their daily teaching and learning endeavors.

It is classroom-based ID model that follow the theories of behaviorism, cognitivism, constructivism (Jonassen, 1991) and connectivism (Siemens, 2005; Ireland, 2007) and advanced features of the Professional Learning Community (PLC). It enhances teachers' professionalism while enriching learners' experiences connecting virtually with other communities. Initially, PLC involve teachers meet together discussing the educational issues, however, CIDS goes one step beyond by inviting participants from other various communities, particularly from industries, to be part of the PLC members to share and contribute expertise, advice, opinions, and useful resources virtually. It provides practitioners in education a valuable tool and perspective in enhancing the quality of instructions, support the experiential and collaborative learning in gaining and creating new ideas, skills, and knowledge to the learners both in classroom and online. Thus, establishing a more participative, communicative and innovative learning environment. CIDS is accessible at <https://asiemodel.net>

INTRODUCTION TO THE COLLABORATIVE INSTRUCTIONAL DESIGN SYSTEM - *Connecting the Dots*

The Collaborative Instructional Design System (CIDS) is a system that gives teachers an option at designing the current teaching and learning environment in connecting the dots - integrating elements and requirements of the current educational needs, fulfilling the nation's educational policies and aspirations into a mechanism that helps teachers to have a wider perspective in the process of designing the instructions creatively, systematically and professionally.

- It comprises **The Integral ASIE Instructional Design Model**, a simple and practical planning tool that fulfill the features of current and future education needs. It allows teachers strategize approaches, methods, and activities for learners to determine their own choices that will inspire them at engaging with learning activities joyfully while preserving the characteristics of teachers' professionalism in learning and facilitating procedures.
- It is a constructive process in designing the instructions, which provides practitioners in education a valuable tool and perspective, to enhance the quality of instructions for all learners regardless of their capabilities and training as well in fulfilling the 21st-century learning requirements.
- While special advanced features of the **Professional Learning Community (PLC)** with its wider scope and concepts are integrated into CIDS giving more opportunities for teachers, learners, and communities to be connected and share valuable information on various aspects of education especially related to the employability issues.

Exhibit 1: The Introduction Page of CIDS (<https://asiemodel.net>)

The screenshot shows the homepage of the Collaborative Instructional Design System (CIDS). The header features the title "COLLABORATIVE INSTRUCTIONAL DESIGN SYSTEM" in purple, with the tagline "transforming teachers. inspiring learners" below it. A logo with a stylized 'S' and 'I' is positioned to the left. The main navigation menu includes links for CONTACT US, GALLERY, FAQ, PUBLICATION, PLC PROGRAM, DOWNLOAD, VIDEO TUTORIAL, and USER MANUAL. A secondary menu lists 21st Century Learning, The ASIE Model, What is Instructional Design?, Designing Strategies, PLC, and Team Members. The main content area is divided into three sections: a large banner titled "Moving towards facing the challenges of IR4.0 era and New Society 5.0" with a QR code on the left; a text block on the right stating "An Integral ASIE Instructional Design Model Version 5.0" and "Login to ASIE Model"; and a bottom section with logos for "P21 PARTNERSHIP FOR 21ST CENTURY LEARNING" and "4.0" (addressing the needs of the fourth industrial revolution - IR4.0), along with a paragraph about the challenges of instructional design in the 21st century.

Exhibit 2: The composition of CIDS

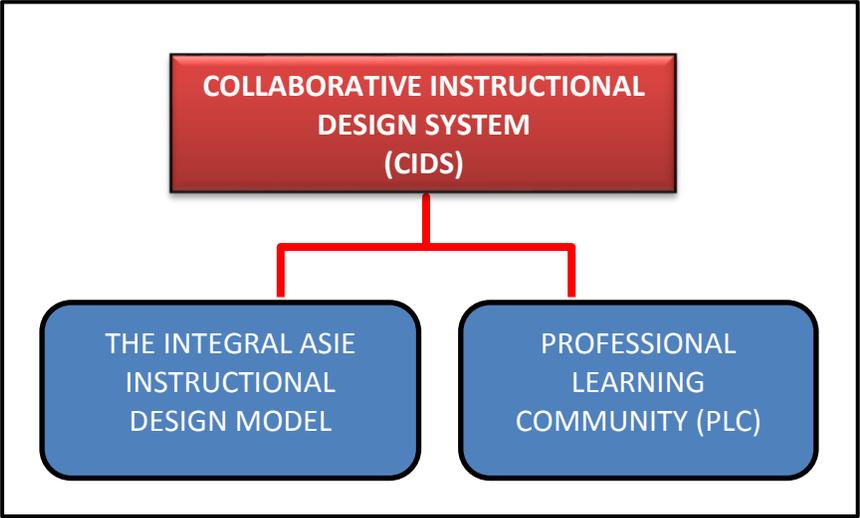


Exhibit 3: The Integral ASIE Instructional Design Model

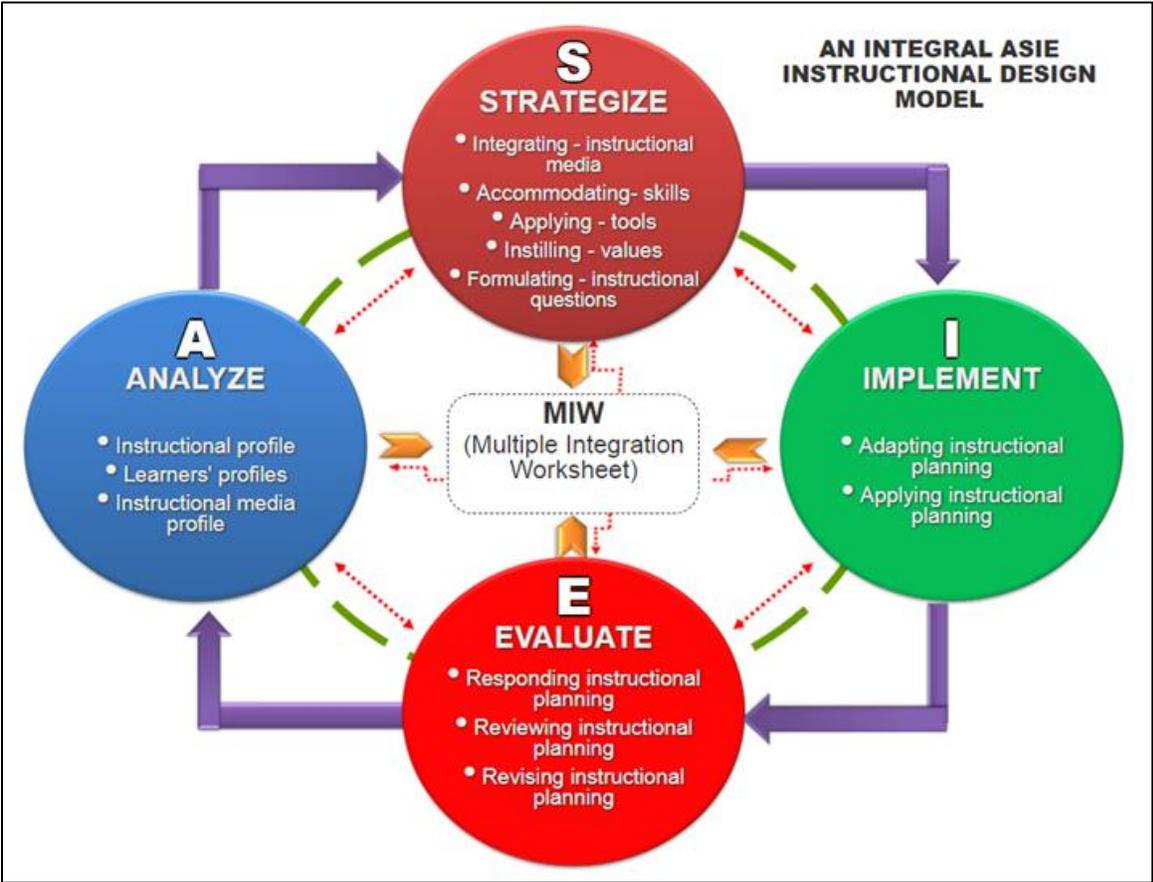


Exhibit 4: The Main Professional Learning Community Page



Register PLC



Login PLC

- The Integral ASIE Instructional Design Model is the instructional design model that has been transformed to meet the current learning environment. This model provides the procedural flow of the instructional planning which is flexible, constructive and user-friendly. It provides an option for practitioners in the educational field as a valuable tool or mechanism in planning the lesson creatively, following the needs of learners based on their characteristics or attributes. Learners are also given an equal opportunity to determine a variety of methods, activities, and recommendations proposed to be experienced in an enjoyable and exciting learning and facilitating environments. This model has a broad perspective towards improving the quality of learning, facilitating and training activities.
- This model has a high impact on teachers and learners in the learning process through the options available in providing opportunities for them to discuss and share materials, experiences and their creativities with other colleagues throughout the country towards creating a high-tech learning approach fulfilling the requirements of the current education landscape.
- CIDS provide opportunities for individuals from different communities, to contribute and share ideas, skills, strategies, and knowledge, to enhance, and sustain the quality of education, especially in addressing future student marketability and employability issues.
- For this purpose individuals are invited or voluntarily participate in the program by registering as a member of the Professional Learning Community (PLC). They can choose to become members of a particular community group - educators, administrators, teachers, professional, learner, and private communities. As a member of the PLC, their details are available on the CIDS website and accessible to various groups of communities around the country for educational purposes.
- Users can discuss virtually with PLC members for advice, contributions, and sharing of ideas in meeting the needs of learning skills. This is a new approach to a non-financial corporate social responsibility (CSR) program that can benefit the society, especially learners in the world of education.

THEORETICAL AND CONCEPTUAL FRAMEWORK OF THE COLLABORATIVE INSTRUCTIONAL DESIGN SYSTEM

The Integral ASIE ID Model has fundamentally encompassed the philosophical attributes of metaphysics, epistemology, axiology, ethics, and logic. This can be seen in flexible planning items that rely heavily on the creativity of teachers and students.

Exhibit 5: The Philosophical attributes of The Integral ASIE ID Model

Philosophical attributes	Definition
metaphysics	The branch of philosophy that deals with the first principles of things, including abstract concepts such as being, knowing, identity, time, and space.
epistemology	The theory of knowledge, especially with regard to its methods, validity, and scope, and the distinction between justified belief and opinion
axiology	The study of the nature of value and valuation, and of the kinds of things that are valuable.
ethics	Moral principles that govern a person's behavior or the conducting of an activity
logic	Reasoning conducted or assessed according to strict principles of validity.

These philosophical underpinnings strengthen the need for professional education player primarily classroom teachers to execute this model in their daily teaching and learning endeavors. It can be seen from various perspectives, concepts, and theories in the following descriptions.

- Theoretically, by looking at various perspectives, CIDS, as its name applied, has the capacity to collaborate with many elements in the instructional planning. The Integral ASIE Instructional Design Model encompassed in CIDS has the features of IHE (integrative, hybrid, eclectic).
- The items contained in this model are integral in nature because they are integrated with the various basic elements in education, which include the science of technology, pedagogy, and content knowledge - TPACK (Mishra, P., & Koehler, MJ (2006) comprehensively to meet the current learning needs. In fact, it involves various communities that contribute to the development of learners' knowledge, skills, and character.
- Looking at the features on the components and items of the model, it can also be classified into the hybrid instructional design system category though basically it is a classroom-based ID model but it has a wider scope which goes far beyond the four walls involving the virtual environments learning which give rooms to the blended type of learning as well as to make the possibility of flipped classroom being practiced.
- It follows an eclectic approach to the instructional design whereby a designer (user) blends ideas from multiple learning theories to construct a learning experience that works better than from only one theoretical influence. Hence, the paradigms of behaviorism, cognitivism, constructivism, and connectivism are likely being considered and applied in the various instructional planning procedures, unlike some of the conventional models that initially designed for Instructional System Development (ISD) (Seel, N. M. 1997, Gustafson K.L., Branch R.M. 2002) which make this model differs from other conventional ID models.

Exhibit 6: Characteristic of The Integral ASIE ID Model

Characteristic of The Integral ASIE ID Model	Description
Integral	<ul style="list-style-type: none"> Integrates various basic elements in the knowledge of education namely technological knowledge, pedagogical and content knowledge (TPACK) Involves various communities that contribute towards the development of learners' knowledge, skills, and character.
Hybrid	<ul style="list-style-type: none"> Basically, it is a classroom-based instructional design model. It has a wider scope which goes far beyond the four walls involving the virtual environments learning which give rooms to the blended type of learning as well as to make the possibility of the flipped classroom being practiced.
Eclectic	<ul style="list-style-type: none"> Incorporates ideas from various learning theories. Aim at building a more effective learning experience than just focusing on one theoretical influence.

- Theories of behaviorism, cognitivism, constructivism are the three broad learning theories most often utilized in the creation of instructional environments. These theories, however, were developed in a time when technology did not impact learning. Over the last twenty years, technology has reorganized how we live, how we communicate, and how we learn. Learning needs and theories that describe learning principles and processes should be reflective of underlying social environments. Vaill (1996) emphasizes that “learning must be a way of being – an ongoing set of attitudes and actions by individuals and groups that they employ to try to keep abreast of the surprising, novel, messy, obtrusive, recurring events” (p.42).
- New technology forces the 21st-century learner to process and apply information in a very different way and at a very different pace from any other time in history thus, lead to the emergence of connectivism.
- According to Siemens, (2005) connectivism was driven by the understanding that decisions were based on rapidly altering foundations. New information is continually acquired, and the ability to draw distinctions between important and unimportant information is vital.
- In 1932, Bartlett pioneered what became the constructivist approach (Good & Brophy, 1990). Constructivists believe that learners construct their own reality or at least interpret it based upon their perceptions of experiences, so an individual's knowledge is a function of one's prior experiences, mental structures, and beliefs that are used to interpret objects and events. What someone knows is grounded in the perception of the physical and social experiences which are comprehended by the mind (Jonassen, 1991).

Exhibit 7: An Eclectic Approach to Theory in Instructional Design

An Eclectic Approach to Theory in Instructional Design (Collaborative Instructional Design System – ASIE Model)				
LEARNING THEORIES	Behaviorism	Cognitivism	Constructivism	Connectivism
INSTRUCTIONAL DESIGN PROCEDURES	<p>Elements of the 21st-century learning in the instructional planning procedures will create awareness which is a great contribution towards the character building of the learners.</p> <p>Example: Life and career skills, the theme of the 21st-century learning.</p>	<p>The approaches towards the learning methods will generate the thinking skills of the learners.</p>	<p>The 4Cs skills will help learners to construct, collaborate, share and generate ideas in the learning process.</p>	<p>Blended learning and flipped classroom practices will produce highly independent learners. While ICT literacy allows an unlimited number of the information accessing that shaped them to become globally competitive learners.</p>

- As a result of the above theories, various learning and teaching models were developed which introduce different methods and techniques to be applied by teachers and students in learning situations. These methods and techniques that can be integrated into teacher's planning procedures according to their own creativity in the Integral ASIE ID Model.
- While adapting to the basic principles of instructional design and other instructional design models such as Dick & Reiser Model, Dick & Carey Model, ASSURE Model, ARCS Model, ADDIE Model, attention were also given to other related fields in the formation of this ID model.
- Basically what distinguishes between The Integral ASIE ID Model with conventional ID models is in terms of the goal towards meeting the concept of the learner-centered approach. Most other models carry the question "What elements need to be determined by the teacher to build a learning situation for learners" - is more teacher-centered because teachers determine the planning process.
- While for The Integral ASIE ID Model brings the question "How teachers strategize the learning in developing a flexible learning situation to meet to the needs of the learners" - it is more learner-centered learning because teachers only suggest various elements that are appropriate while learners are given the opportunity to implement those activities that inspire their interest in fulfilling the current educational situation.
- As an example of a strategy proposed by the teacher for the problem-solving session, a group of learners may choose a mind map for to presentation, while another group of learners may be interested in finding the appropriate video clip for presentation
- In this case, a special attention should be given to learners' profiles, their readiness in following the lesson, media attributes, and learners thinking levels in establishing the differentiated learning situation. Moreover, the relevance between the principles and theories taught in the classroom with the working environment to be met in the era of the Revolutionary Industry 4.0 (IR4.0) and their

position and role in the emergence of the smart society 5.0 (Society 5.0) in the future is a vital factor to be analyzed, strategized and implemented.

- These factors are important in creating the concept of “thinking out of the box” among learners and educationalist as well in addressing to the current education developments.
- Likewise the key elements in the current learning framework such as the 21st Century Learning Framework, (2002), Four-Dimensional Learning, (2015) and Framework for 21st Century Learning, Ministry of Education, Malaysia (2017), that have a close correlation between each other are also part of the planning items in this model to ensure its’ relevant to current learning situations.
- Practically based on the theoretical description, teachers require skill in pedagogical knowledge, technological knowledge, and content knowledge – TPACK (Mishra, P., & Koehler, MJ 2006) integrated into their learning and facilitating activities.
- A Strategic Learning Structure Framework was developed to clarify how the components of instructional planning in The Integral ASIE ID Model were formed based on the areas in the TPACK Model.

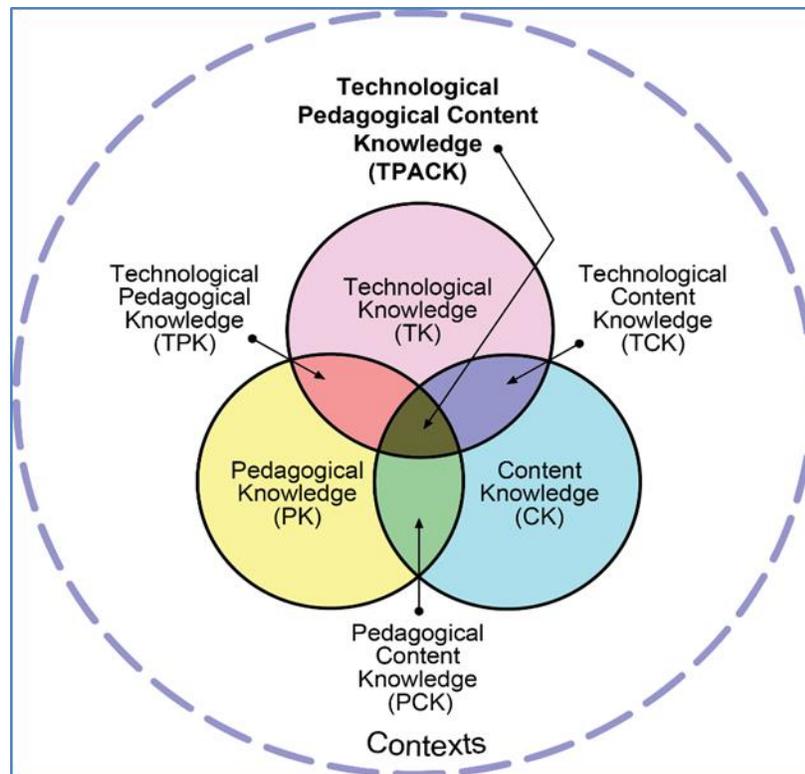
Exhibit 8: Comparison between conventional and situational ASIE ID Model

CONVENTIONAL ID MODELS	SITUATIONAL ASIE ID MODEL
<ul style="list-style-type: none"> • Most of the models originally designed for Instructional System Development (ISD). (http://www.nwlink.com/~donclark/history_isd/adie.html) • Some of the conventional ID models created based on the specific needs, conditions and theoretical aspect; Example: ADDIE model - focus on the creating of the software product, ASSURE Model - focus on media selection in learning. The ARCS model - focuses on motivational elements in instructional planning. Dick & Reiser model - focus on general classroom practices. 	<ul style="list-style-type: none"> • It is purely designed for classroom used regardless of the mode of learning (traditional, online, blended learning, flipped classroom). • The model provides a flexible planning item that could be easily customized accordingly to the needs of the teachers’ planning practices.
<ul style="list-style-type: none"> • There are many lesson plans that use templates to design a course or lesson. Example: Google classroom • There are also applications that provide space for sharing a variety of teaching lesson resources Example Edmodo. • There is a model for specific areas. Exp. The SAMR Model is to assist instructors in determining the level of technology integration in the learning environment. The goal is to introduce technology tools that redefine the learning space, which is ultimately accomplished by replacing traditional teaching methods with alternate learning environments. 	<ul style="list-style-type: none"> • Teachers may collaboratively involve in planning their instruction virtually or request to copy and edit the instructional planning of others. • It is an integral whereby teachers and students have a freedom to choose the mode of learning (digital or non-digital) in the course of their learning session. • They may refer to other ID Model to support the strategies developed. • ASIE model does not focus on certain approach. It is more about the instructional planning for learners with flexible planning items. Teachers may adopt different

	approaches to inspire learners that relevant to the current learning environment.
<ul style="list-style-type: none"> • More concern on teachers’ delivering process in designing instruction – teacher-centered. • Instructional planning is more structured, a stereotype with rigid planning items. 	<ul style="list-style-type: none"> • More concern on learners’ aspirations, emphasizing the learning strategies, fulfill learners’ learning requirements (learner-centered) in designing instruction. • Flexible designing items – allows customization with regards to the current situation (able to add and remove items in the online version).
<ul style="list-style-type: none"> • Normally, except in certain conditions, learners <u>follow</u> teachers’ instructional process with less freedom in deciding their own <u>activities</u>. 	<ul style="list-style-type: none"> • Learners have a freedom in choosing their activities based on their profiles, creating an interesting, exciting, motivating, inspiring and innovative learning environment.
<ul style="list-style-type: none"> • Answering the question “What type of instructional planning should be prepared and delivered to learners? – <i>(teachers’ centered)</i> 	<ul style="list-style-type: none"> • Answering the question “How to strategize the instruction according to learners’ needs (gaining, receiving, responding, transferring, creating, innovating new skills and knowledge?” (promotes learners’ engagement/interactions - collaborating, sharing, communicating, critical and creative thinking)
<ul style="list-style-type: none"> • Provide instructional design process. 	<ul style="list-style-type: none"> • Provide practical design procedures.
<ul style="list-style-type: none"> • Learners’ assessment in the form of formative evaluation and summative evaluation treated as a separate component in most of the conventional ID model. 	<ul style="list-style-type: none"> • Instructional question is an item formulated in the 2nd component of the model which is integrated into the activities based on LOTS and HOTS - engaging the learners “to think while doing” in the learning environment. It is an integrated mode of assessing learners’ capabilities.
<ul style="list-style-type: none"> • Application towards system development, courseware development, selection of teaching materials and the development of teaching methods. 	<ul style="list-style-type: none"> • The optional and advanced features of the application provide wider input from various sources including the professional learning community created towards accommodating, integrating, applying (strategizing) current educational needs, preparing learners for the current and future educational environment.

<ul style="list-style-type: none"> • Certain classroom-based model provides components for the general planning process. 	<ul style="list-style-type: none"> • The components of the model provide teachers collaboratively plan their instruction at the macro level (topical/weekly/monthly lesson planning) and at the micro level (daily lesson plan)
<ul style="list-style-type: none"> • Learners are not involved in the ID model. 	<ul style="list-style-type: none"> • Learners are given opportunities to determine their own strategies (methods, technique, activities) that inspire them in the learning activities. • Learners may register freely and login to the specific group created in PLC to share opinions, suggestions in the forum, response to the question or interact virtually in the video chat or video conference with their teachers or college, developing/engaging/exploring their potentials (the development of 4Cs) through the features provided in the model.
<ul style="list-style-type: none"> • Planning is done conventionally – manually designed. 	<ul style="list-style-type: none"> • Online planning – the model’s advanced features provide opportunities, enabling instructors/teachers/educationist share ideas in their planning across nations with other communities.

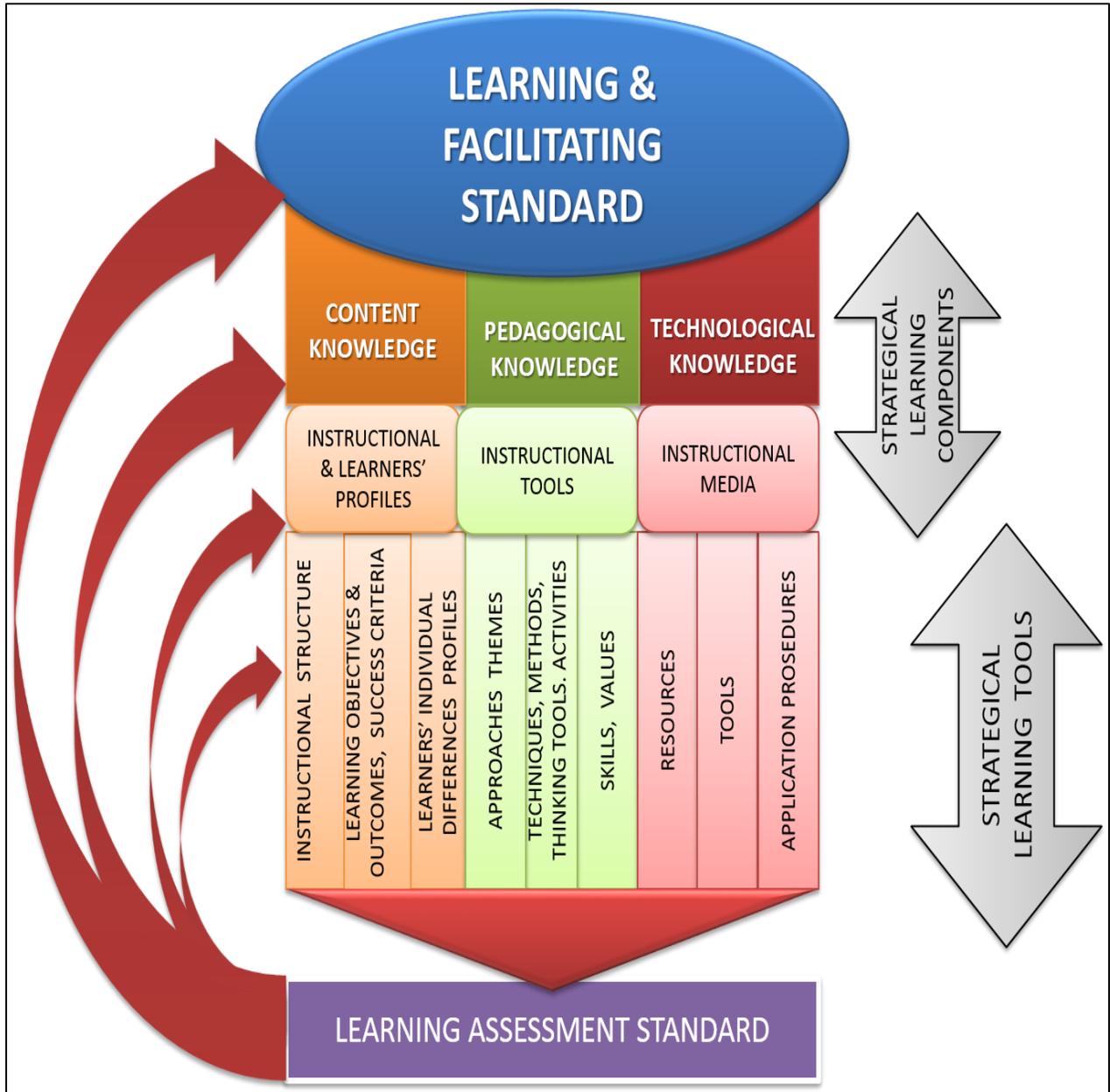
Exhibit 9: Integration of technological knowledge, pedagogical knowledge & content knowledge in the TPACK Model (Mishra, P., & Koehler, M.J. 2006)



A Brief description of the TPACK Model

- **Technological Knowledge (TK)** – teachers should have a broad knowledge of strategies integrating various existing technologies according to their capabilities and facilities to give students the opportunity to access information in a simpler, more effective and practical way.
- **Pedagogical knowledge (PK)** - knowledge in this area is needed so that teachers are able to strategize with various approaches, methods and techniques that are appropriate to form learning activities among students
- **Content knowledge (CK)** – teachers should be proficient in the area of knowledge taught. Deep and comprehensive knowledge becomes a necessity in the learning process
- **TPACK**–to produce the effectiveness of teaching, the teacher should pair the three areas in his teaching session not only skilled in certain areas.

Exhibit 10: The Strategic Learning Structure Framework



Descriptions of The Strategic Learning Structure Framework

• **LEARNING & FACILITATING STANDARD**

Learning & Facilitating Standard shows details of learning and facilitating areas which focus on the needs and guidance towards teachers' planning. It can be classified according to the TPACK model framework i.e. content knowledge, pedagogical knowledge and technological knowledge. These three constitute the Strategic Learning Component.

- **Content Knowledge** – It is referred to learning structures, (learning topic, learning objectives, learning outcomes, success criteria, etc.), and the profile of individual differences. These items should have a close relationship in determining the direction of learning.
 - *learning structures* – items needed to design learning as found in school syllabus
 - *objective & learning outcomes, success criteria* - statements about the knowledge and skills that students need to achieve or demonstrate in general or specific
 - *profiles of individual differences* - refers to the characteristics or attributes of a student exhibited through psychometric tests or related to it to determine the student's objective / criteria of success.
- **Pedagogical Knowledge** - various approaches and themes of learning, techniques, methods, thinking tools and learning activities, skills and values that should be integrated in the learning process.
 - *approaches and themes of learning* - various approaches can be suggested and applied according to the creativity and suitability of students and teachers. While various learning themes, especially current learning themes (21st Century Learning) can be linked to learning topics.
 - *techniques, methods, thinking tools* - a variety of techniques, methods and thinking tools suggested by teachers or the choices of the student according to their own creativity in solving the problems given in the learning process.
 - *skills and values* - *appropriate variety of skills and values of the current learning environment that should be built and applied in the learning activities.*
- **Technological Knowledge** - *all digital, non-digital tools and applications can be used to meet the learners' preferences in accessing information.*
 - *resource* - *text, video, audio, graphics and resources in various forms capable and suitable for use in the learning and facilitating activities*
 - *tools and applications* - *a variety of computer gadgets, projectors, cell phones or materials; as well as various free downloadable applications need to be known and used in. learning and facilitating activities*
 - *application procedures* - *knowledge of the application and its features that related to the learning topics are required.*

All the items in the above components form the Strategic Learning Tools

• **LEARNING ASSESSMENT STANDARD**

Learning Assessment Standard shows detail information in the Learning and Facilitating Standard. They are guidelines and criteria for developing Learning Assessment Standards which determine the achievement of the learners' knowledge, skills and character in fulfilling the current needs of learning environments and meet the future employability issues.

Exhibit 11: Components of TPACK Model in The Multiple Integration Worksheet



NAME: PIRAVINA A/P VIJAYAKUMARAN
 CLASS LEVEL: YEAR 4
 CLASS:
 SUBJECT: ENGLISH LANGUAGE
 DATE: 12-02-2018 TO 15-02-2018
 WEEK : 7



SEKOLAH KEBANGSAAN (FELDA) BUKIT JALOR
 MULTIPLE INTEGRATION WORKSHEET (MIW)

ANALYZE		STRATEGIZE					
(a) Instructional Profile	(b) Learners Profiles	(c) Instructional Media Profile	(d) Integrating - Instructional Media	(e) Accommodating - Skills	(f) Applying - Tools	(g) Instilling - Values	(h) Formulating - Instructional Questions
<p>Topic Unit 4 : Be Safe</p> <p>Learning Topic 5 Grammar 2 Reading 3 Writing 4 Language Arts</p> <p>Content Standard 2.2 By the end of the 6-year primary schooling, pupils will be able to demonstrate understanding of a variety of linear and non-linear texts in the form of print and non-print materials using a range of strategies to construct meaning. 2.3 By the end of the 6-year primary schooling, pupils will be able to read independently for information and enjoyment. 3.3. By the end of the 6-year primary schooling, pupils will be able to write and present ideas through a variety of media using appropriate language, form and style.</p> <p>Learning Standard 2.2.1 Able to apply word attack skills by identifying: (a)homograph (b) homophone 2.2.2 Able to read and understand phrases and sentences from: (a) linear texts</p>	<p>Please click here to enter information</p>	<p>Types of Media Whiteboard and marker pens Fiction and Non-Fiction books. Images Printed materials Textbook Elements Text Composition Environment Importance</p>	<p>Instructional media Images are used to show examples. Printed materials are used as worksheet Textbook is used as the main reference. Whiteboard and marker pens are used by pupils to complete the activities. Fiction and Non-Fiction books are used for NILAM EAC Aspect of invention is used in the learning.</p>	<p>21st Century Interdisciplinary Themes Theme Civic Literacy Learning and Innovation Skills (4C) Critical Thinking Communication Collaboration Life and Career Skills Flexibility and Adaptability Initiative and Self-Direction Information, Media</p>	<p>Thinking Tools Consider All Factors (CAF) Double bubble map Method, Technique, Approach Outcomes based learning Simulation Contextual learning Role play/ Dramatization</p>	<p>Values Hardwork Persistence Safety Be cautious Team work Creativity</p>	<p>The main instructional questions or statements based on LOTS What is a neighbourhood watch? The main instructional questions or statements based on HOTS Why should we turn down the volume on the home telephone before we leave?</p>

Content Knowledge

↑

Technological Knowledge

↑

Pedagogical Knowledge

↑

Exhibit 11 displays The Multiple Integration Worksheet (MIW) of the teacher’s instructional planning.

- It displays planning items of a topic selected by users at macro level.
- Aspects and items of the ASIE ID model are arranged in the columns that show technically the different component of TPACK Model – *content knowledge, technological knowledge* and *pedagogical knowledge*.

THE 21ST CENTURY EDUCATION

So much attention has been given on the characteristics and features of the 21st Century Learning framework in the development of the Integral ASIE ID Model because it is kind of current requirements in learning that support the era of IR4.0 as well as the emergence of the smart Society 5.0.

- The framework for the 21st Century Learning (2002), which describes the skills that learners need to thrive in today's global economy has been proposed by The Partnership for The 21st Century Skills (www.21stcenturyskills.com).
- **P21's Framework for 21st Century Learning** was developed with input from teachers, education experts, and business leaders to define and illustrate the skills and knowledge students need to succeed in work, life, and citizenship, as well as the support systems necessary for 21st-century learning outcomes. It has been used by thousands of educators and hundreds of schools in the U.S. and abroad to put 21st-century skills at the center of learning. (<http://www.p21.org/our-work/p21-framework>).
- The 21st Century Skills Early Learning Framework (P21 ELF) was developed to encourage educators, providers of services to young children, administrators, and policymakers to include early learning as they develop strategies for full integration of 21st-century skills into their learning programs.
http://www.p21.org/storage/documents/EarlyLearning_Framework/P21_ELF_Framework_Final.pdf
- The four colored component (Exhibit 12) that formed the main semi-circle of the upper portion of the framework (as represented by the arches of the rainbow) representing the learners' outcomes consisting of knowledge and skills required in learning with support systems as illustrated by four grey colored semicircle lines (as represented by the pools at the bottom) on the lower portion of the framework.
- The framework has formulated the required knowledge and skills of the 21st-century learners from the following elements:

A. Learners' outcomes

1. **21st –century themes** - Besides the core subjects that outline the 21st Century learning, schools must also emphasize and promote the understanding of the academic content at much higher levels by inter-weaving the 21st Century interdisciplinary themes into core subjects which include the *global awareness, financial, economic, business, and entrepreneurial literacy, civic literacy, health literacy, environmental literacy*.
2. **Learning and Innovation Skills:** An increasingly complex life and work environments in the 21st-century need learning and innovation skills among learners. A focus on *creativity, critical thinking, communication, and collaboration* is essential to prepare students for the future.
3. **Information, Media and Technology Skills:** To be effective in the 21st-century learning, learners must be able to *create, evaluate, and effectively utilize information, media, and technology*.
4. **Life and Career Skills:** Today's learners need to develop thinking skills, content knowledge, and social and emotional competencies to navigate complex life and work environments which include *flexibility & adaptability, initiative & self-direction, social & cross-cultural skills, productivity & accountability, leadership & responsibility*.

B. 21st Century Support Systems

The following elements are the critical systems necessary to ensure learners mastery of 21st-century skills. It includes the 21st century standards, assessments, curriculum, instruction, professional development and learning environments must be aligned to produce a support system that produces 21st-century outcomes for today's learners.

The Four Dimensional Education

In 2015 The Four-Dimensional Education (Centre for Curriculum Redesign, 2015) (Exhibit 13) has been written which focuses on the transformation of our education systems in relation to the competencies and aspirations needed by our learners in the 21st-century learning environment. Being closely related to the 21st Century Partnership framework, the component has been restructured to portray the qualities of human learning dimensions namely the knowledge, skills, and character that involved the metacognition processes. It is an adaptation of the previous framework which emphasizes the integration of 21st learning component that learners should possess. However, the Exhibit 14 shows there is a close relationship between their items.

Exhibit 12: The 21st-Century Learning Framework (The Partnership, 2002)

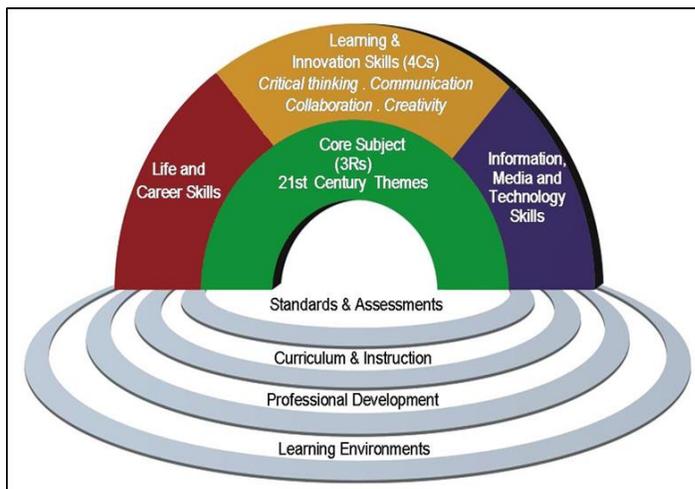


Exhibit 13: The Four-Dimensional Education (Centre for Curriculum Redesigning, 2015)

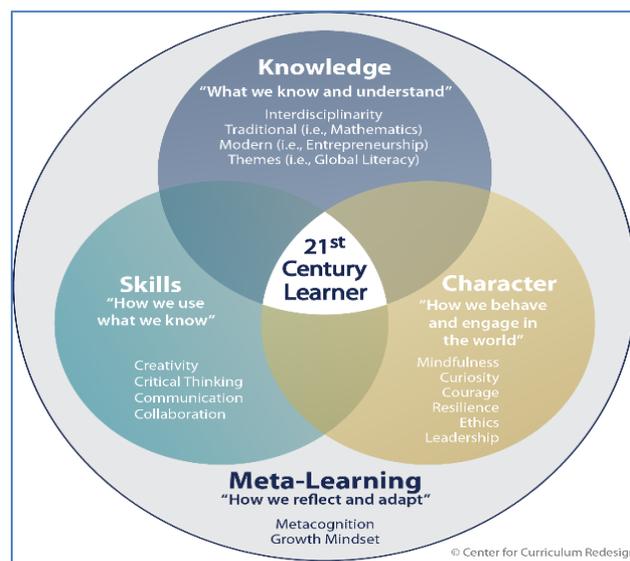
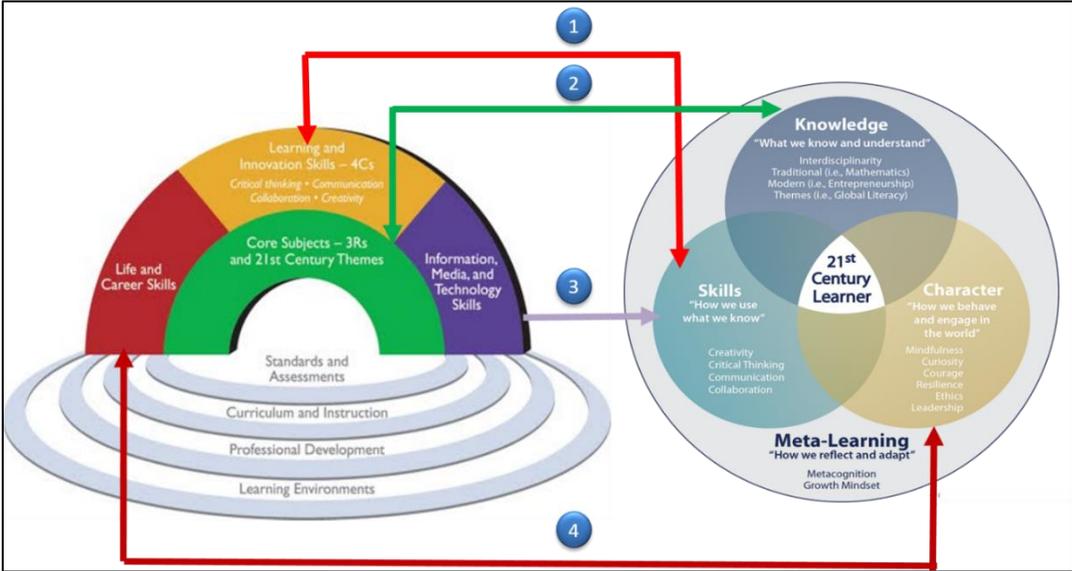


Exhibit 14: The Relationship of the frameworks and their integration in The Integral ASIE ID Model



The 21st-century learning features are integrated into the components of The Integral ASIE ID Model in formulating the instructional questions which are displayed in MIW

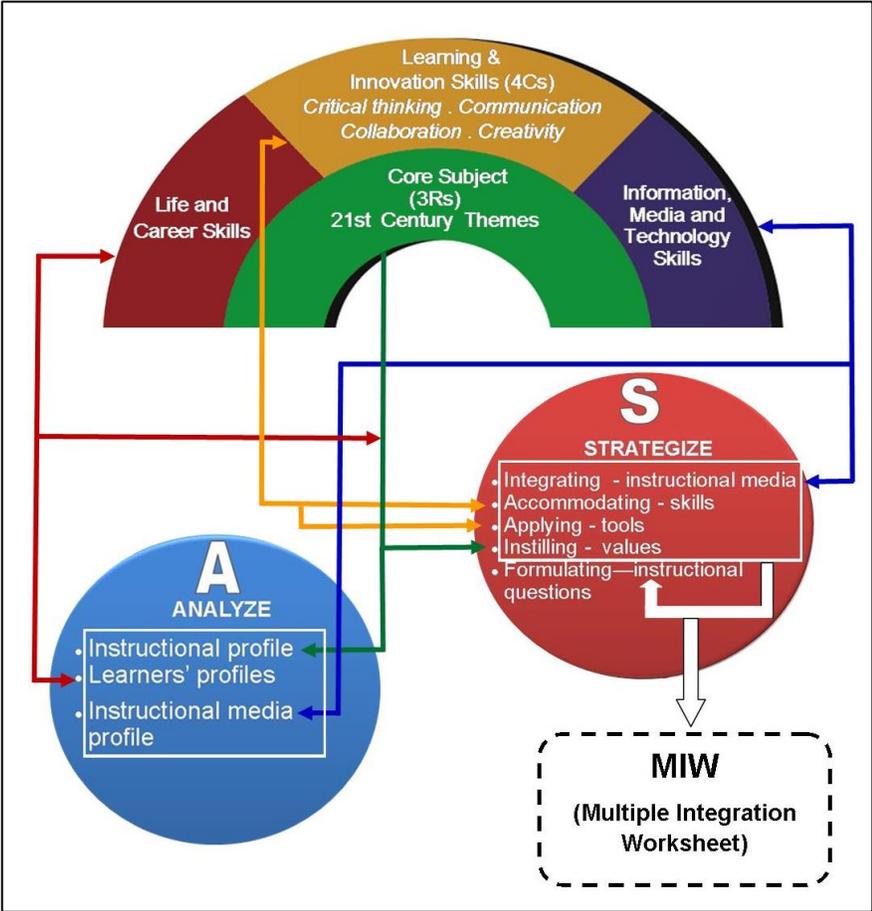


Exhibit 15: Structures of The Integral ASIE ID Model

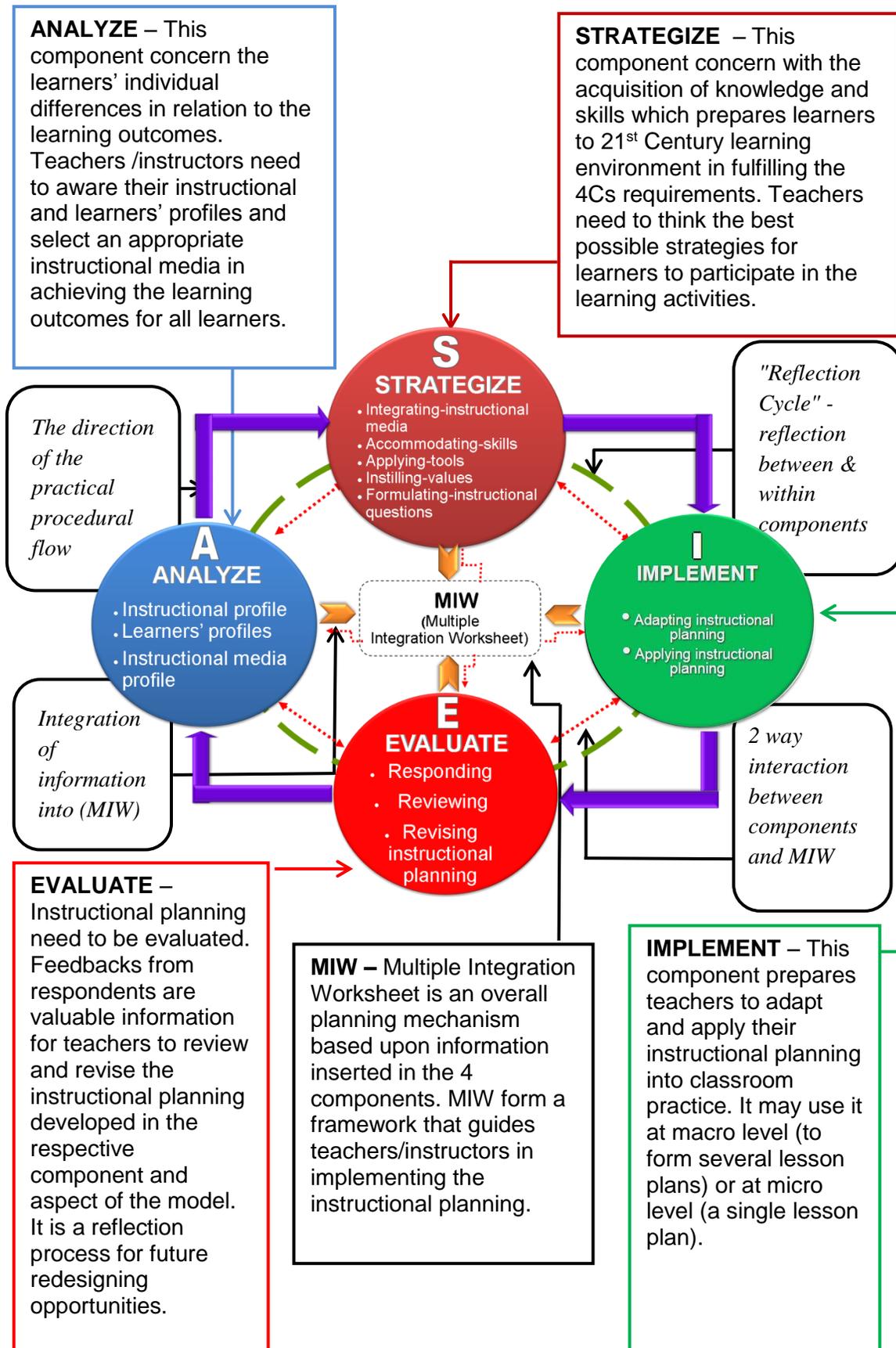
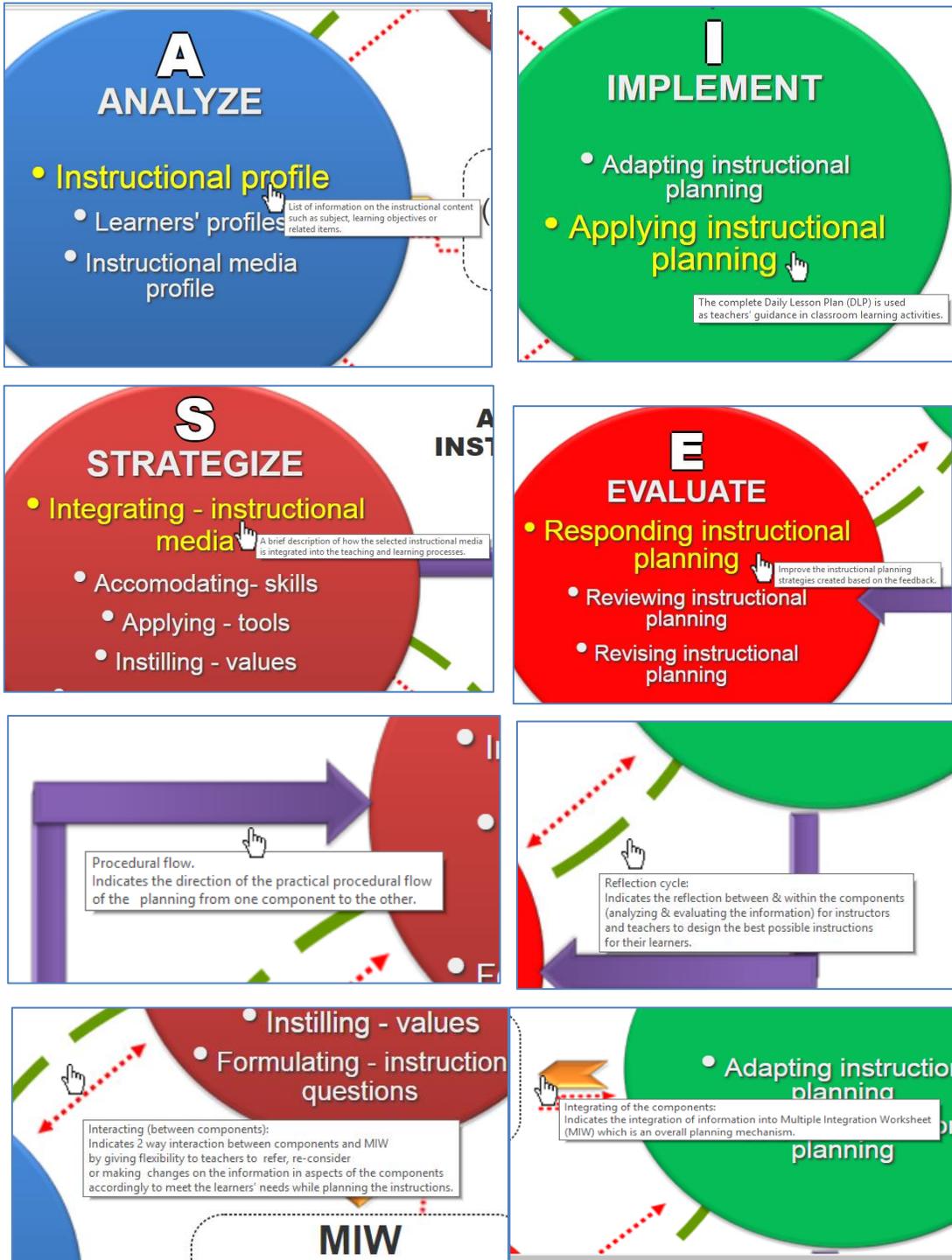


Exhibit 16: Components, Aspects, and Items of The Integral ASIE ID Model

COMPONENT		ASPECT	ITEM	MIW
A	ANALYZE	• Instructional profile	<ul style="list-style-type: none"> ○ subject, theme, learning areas, topic, etc. ○ learning outcomes/ learning objectives etc. 	<p>Multiple Integration Worksheet (MIW) is an overall planning mechanism or framework based upon the four components, used to guide instructors/ teachers in formulating & integrating the best possible practices in the instructional planning strategies to meet the current and future learning needs and requirements of the learners.</p>
		• learners’ profiles	<ul style="list-style-type: none"> ○ multiple intelligences, ○ learning styles ○ other psychological profiles 	
		• instructional media profile	<ul style="list-style-type: none"> ○ types of media chosen ○ elements ○ compositions 	
S	STRATEGIZE	• integrating - instructional media	<ul style="list-style-type: none"> ○ instructional media were chosen for the lesson in relation to the above profiles 	
		• accommodating - skills	<ul style="list-style-type: none"> ○ Various learning skills including the 21st. Century learning skills and features 	
		• applying - tools	<ul style="list-style-type: none"> ○ applying various thinking tools - Higher Order Thinking Skills (HOTS) ○ instructional tools - technique, methods, activities, etc. 	
		• instilling – values	<ul style="list-style-type: none"> ○ the element of moral values & others 	
		• formulating	<ul style="list-style-type: none"> ○ instructional questions ○ assessment 	
		• adapting	<ul style="list-style-type: none"> ○ adapting for lesson/course development 	
I	IMPLEMENT	• applying	<ul style="list-style-type: none"> ○ applying in the learning & teaching process based upon lesson/course plan developed 	
		• responding	<ul style="list-style-type: none"> ○ responding to the feedback 	
E	EVALUATE	• reviewing	<ul style="list-style-type: none"> ○ reviewing the instructional planning strategies for improvement 	
		• revising	<ul style="list-style-type: none"> ○ revising the instructional planning strategies for future redesigning 	

Users will be able to read the prescriptions of each aspect of the model component and its direction when the mouse is positioned over the particular text. Here are some examples

Exhibit 17: Model's Prescriptions



THE INTEGRAL ASIE INSTRUCTIONAL DESIGN MODEL – THE PROCEDURAL APPLICATION

The Integral ASIE Instructional Design Model is an integrated strategical approach to the designing of the instruction in fulfilling the learners' needs in today's learning environment.

Items of the model are based on the proposed **21st-Century Learning Framework** by the *21st Century Partnership (2002)* and **Four-Dimensional Education** released by the *Centre for Curriculum Redesign (2015)*.

- The Integral ASIE Instructional Design Model is an innovative 21st Century teachers' online designing tool, result from the transformation of education particularly in the area of instructional design. It responds to the challenges and perhaps provides a solution for teachers to design instruction professionally, effectively and systematically. As a result, the model provides a dynamic design of instruction while addressing the needs of 4Cs (*critical thinker, communicator, collaborator, creator*) in establishing "*globally competitive personality*" among all learners.
- It is an eclectic approach of ID model where principles of instructional design theory and various learning theories such as behaviorist, cognitive, connective and constructivist are emphasized in the construction of the learning activities.
- Teachers and learners collaboratively involved in deciding the learning activities. Learners are given the option to select the relevant methods and techniques according to their own interest or their psychological attributes that will create an inspiring and exciting learning environment, ASIE refers to **Analyze, Strategize, Implement, and Evaluate**. This "learner-centered approach" interactive online ID model in designing instruction, engage learners of different abilities exploring and unleashing their potentials in generating and creating ideas through Higher Order Thinking Skills (HOTS) activities.
- This model emphasizes more on learning (learner-centered) rather than solely instructional delivery. Moving from adopting a standard approach to developing models that could be customized to the 21st century needs of each learner and thereby, creating a much better learning experience both in the classroom and online or in another form of education climate.
- Customization of the items in the component of the model is allowed giving more options to teachers and learners to select or change the initial setting for further improvements according to the curriculum requirements, school planning practices, learners' needs and teachers' creativity.
- The model is **interactive** to the user, **integrative** in planning the content, **prescriptive** in the planning procedures and **constructive** in the organization of the components.
 - **Interactive:** A user-friendly interactive features which provide options to interact with the content of the items, selecting, pasting, writing and dragging accordingly.
 - **Integrative:** Provide options for teachers to integrate planning items provided or add new items as needed in the planning process.
 - **Prescriptive:** Provide a fast accessing of preset information that assists users in understanding the features of the model.
 - **Constructive:** A complete, comprehensive and well organized strategical planning procedures.
- The model begins with the individual teacher or a group of teachers collaboratively analyzed the suggested aspects in the first component of the model that include the instructional profiles such as subject, theme, learning areas, topic, learning objectives and outcomes or other profiles for the particular subject.
- In the second component of the model, features of the 21st-century learning skills analyzed, various instructional tools (techniques, methods, and activities) selected, appropriate thinking tools especially

dealing with the principle of higher order thinking skills (HOTS) and aspect of moral values identified. This leads to the formation of instructional questions. They are essential questions for the topic which formed instructional strategies in the instructional planning.

- Teachers will propose the selected strategies in the third component to their learners in determining its appropriateness and effectiveness for the best practices in the classroom. The final component is the evaluation stage whereby responses from feedback are gathered to review and revise the instructional planning strategies in the respective component and aspect of the model. It is a reflection process for future instructional redesigning opportunities. However, evaluation is not only taking place at the end of the planning but at every component of the model as indicated by dotted lines. The Reflection Cycle is another form of evaluation/reflection for teachers in their instructional planning process as indicated by the green circle. There are other advanced features that benefit teachers in their instructional planning as well as instructional leaders (principle, headmasters, evaluators) in monitoring, supervising, evaluating and accessing the teachers' professional competencies.

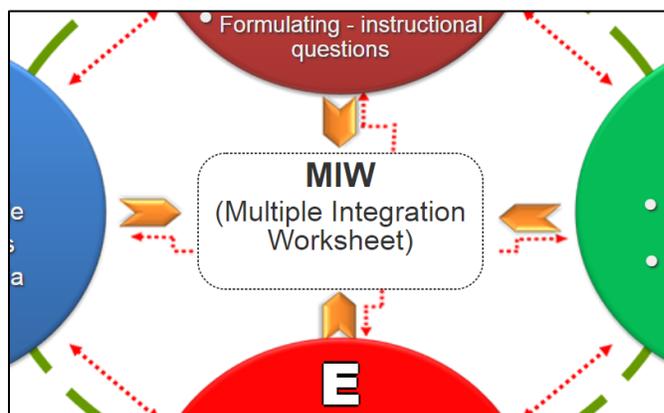
The new version of 6.0 has various options allowing teachers to create daily lesson plans (DLPs) according to their respective needs creatively and professionally and creating a Professional Learning Community (PLC) to build character and unleash learners' creativity.

Multiple Integration Worksheet (MIW)

An Integral ASIE ID Model has its own planning worksheet known as Multiple Integration Worksheet (MIW).

- It gathers a wide instructional planning information by users through the customized aspects and items in the components of the model. These unique features guide teachers in the process of formulating & integrating the best possible practices for learners with different abilities in the instructional planning strategies at the macro level (overall planning for a specific topic) and at micro levels (creation of daily lesson plan – DLP).
- Since teachers are encouraged to plan their instruction collaboratively with their colleges, thus, MIW helps teachers in the lesson study session (features of Professional Learning Community – PLC) to determine the best possible items and contents that fit well in their classroom practices.
- It is editable and savable in the pdf file format to the user while providing options in requesting it to be shareable among others across the nation.

Exhibit 18: The Multiple Integration Worksheet



Strength and Capability

Generally, the strength of The Integral ASIE ID Model are as follows:

- Designing instruction at macro and micro level systematically and professionally
- Allows customization to meet users' requirements
- Sharing teaching record (lesson plan)
- Copy teaching record
- Searching teaching record
- Uploading all types of teaching resources
- Searching & displaying information on global development and issues related to the topic for learners' co-academic & co-curriculum activities
- Interacting, communicating and collaborating and sharing of information with communities virtually through the forum, chatting, and video conferencing enhancing and promoting the concept of thinking out of the box.
- For user convenience, this model provides user manuals, reference materials, information materials and video guidance to understand and facilitate the application and operation of this model
- Guidance, endorsement, and validation of the instructional planning can be carried out professionally at different administrative levels.

THE PROCEDURAL APPLICATION OF THE INTEGRAL ASIE ID MODEL

COMPONENT 1: ANALYZE



Aspect of analysis:

- (i) Instructional profile
- (ii) Learners' profiles
- (iii) Instructional media profile

- (i) **Instructional profile:** include items such as classes taught, subjects, themes, learning areas, topics/subjects, learning objects, learning outcomes based on syllabus the description. Teachers can also add other items that are appropriate to the teachers' practices. Users are given the option of selecting the content provided or adding their own content.
- (ii) **Purpose:** Since this model is based on learning outcome-based learning, teachers need to know what are the actual learning outcomes (ILO), multidisciplinary and generic skills, knowledge, required according to current needs.

Exhibit 19: Learning Profiles

<p>Learning Areas Various angles of knowledge and skills of the subject in the learning process Example: English: Language For Interpersonal Use</p>	<p>1.0 LANGUAGE FOR INTERPERSONAL USE</p>	<p>Click to select or/and write or/and copy and paste, then Enter</p>
<p>Learning Outcomes Skills and knowledge that a student will be able to demonstrate upon completion of the learning process Example: English: skimming and scanning for specific information and ideas</p>	<p>Select your choices or write</p>	<p>Click to select or/and write or/and copy and paste, then Enter</p>
<p>Specifications Detail descriptions of learning outcomes. Example: English: Reading and understanding nonlinear texts such as simple diagrams and tables</p>	<p>1.1 a. Make friends and keep friendships by introducing oneself;</p>	<p>Click to select or/and write or/and copy and paste, then Enter</p>
<p>Learning Objectives Write several learning objectives to achieve in DLP</p>	<p>1.1 b. talking about self, family, friends, interests, past events, feelings, and understanding when others talk about themselves;</p> <p>1.1 c. exchanging ideas and giving opinions on topics of interest;</p> <p>1.1 d. taking part in conversations and discussion.</p>	<p>i. Write or copy and paste the required texts and click enter. ii. Double click at the texts to edit and click [Enter] to accept</p>

- (iii) **Learners' profiles** - including learning styles, or items on psychometric tests performed at school or other tests that can demonstrate learners' characteristics (learners' attributes). Teachers can add other learners' profiles if necessary

Purpose: Since this model is characterized by student-centered which is a key part of learning and facilitating in today's learning environment, it is desirable for teachers to know their learners' general profiles in the classes concerned. It helps to select the material selection, strategize learning activities and developing differentiated learning activities that are suitable for their students.

Example: if many of the students in their classes characterized by visual in Multiple Intelligence tests, then teachers may use the methods that fit these features (such as video shows, photo-tracking activities, and other activities) without ignoring other methods to create a balance in the growth of various aspects in learners' character development.

Exhibit 20: Learners' Profiles – Psychometric Test

Setting : Psychometric Test		Selection of items on Psychometric Test for instructional planning
Psychometric Test	Select	
Learning Styles	<input type="checkbox"/>	
Aptitude Test (General)	<input type="checkbox"/>	
Aptitude Test (Specific) - Multiple Intelligences	<input type="checkbox"/>	
Personality Traits Test	<input type="checkbox"/>	
Holland Code Career Test	<input type="checkbox"/>	
The Career Maturity Inventory (CMI)	<input type="checkbox"/>	
PAJSK	<input type="checkbox"/>	
Others	<input type="checkbox"/>	

Exhibit 21: Psychometric Test – Multiple Intelligences

Psychometric Test

Aptitude Test (Specific) - Multiple Intelligences

(Write the total number of students scoring the highest in each of the following items for this class. Refer to the school counsellor for advice or read the user manual)

Display No. Percentage

	No.	Percentage
Visual / Spatial	<input type="text" value="2"/>	<input type="text" value="8.0%"/>
Verbal/ Linguistic	<input type="text" value="5"/>	<input type="text" value="20.0%"/>
Logical / Mathematical	<input type="text" value="8"/>	<input type="text" value="32.0%"/>
Bodily /Kinesthetic	<input type="text"/>	<input type="text" value="0.0%"/>
Musical	<input type="text"/>	<input type="text" value="0.0%"/>
Interpersonal	<input type="text"/>	<input type="text" value="0.0%"/>
Intrapersonal	<input type="text"/>	<input type="text" value="0.0%"/>
Naturalist	<input type="text"/>	<input type="text" value="0.0%"/>
Existential Intelligence	<input type="text"/>	<input type="text" value="0.0%"/>

For this purpose, the model provides a simple and concise method as an option to fill the class test scores with the help of the school counselors.

- (iv) **Instructional media profiles** - a list of various digital and non-digital medium-media materials for learning activities. Teachers are also given the option to add their own media that they think is appropriate for their teaching sessions.

Purpose: Media selections (different types and media classifications) can be made based on the learners’ characteristics/attributes and subject matter. The option is given to teachers to analyze the media elements – i.e. various aspects or features of media such as text, graphics, animation, video, audio, etc. that are merged into the media products to be selected in the learning process.

Media Elements

Examples: - in video clip shows there are also: -

- text may appear in the video clip or in the form of script readings,
- graphics - (examples: illustration, chart, or motion picture etc)
- audio - background music examples, sound effects such as thunder, the sound of people ask for help (see and hear).

There is also an audio element that can’t be heard but there is evidence which can be seen –

Example: Still photo shown flood in the areas with a thick black cloud on the sky. If we are to focus on the audio element the teacher can instruct the student for an opinion of what the student might be heard based on the evidence in the picture if he happened to be at the location.

Teachers are also given an option to analyze the composition of the element i.e. various small items that are broken in terms of various aspects/perspective.

Media Composition

Example:

- objects (flora -fauna - rivers, birds, mountains, clouds etc.)
- background (paddy field, sea, cloud etc.)
- atmosphere (quiet, cheerful, noisy etc.)
- feeling (sad, happy, hateful, scared, etc.)

Teachers may create their own media composition to be added to the list.

Exhibit 22: Media Selection – Types of media

Enter the appropriate media application	
Record Name :	MT/T2/M26
Types of Media <i>Various digital and non-digital instructional materials for learning activities. User may add other relevant types of media.</i>	<input type="text" value="Graphic materials x"/> <small>Click to select or/and write or/and copy and paste, then Enter</small>
Elements <i>Various aspects or characteristics of media such as video, audio or others, combined to form a media product. User may add other relevant elements.</i>	<div style="border: 1px solid gray; padding: 2px;"> Animated clip Audio clip Charts Flash cards Graphic materials Images </div> <small>Click to select or/and write or/and copy and paste, then Enter. Leave blank if not required</small>
Composition <i>Various small breaking items such as objects, background, or others in a specific media, used as generation of ideas in the learning process. User may add other relevant composition items.</i>	 <small>Click to select or/and write or/and copy and paste, then Enter. Leave blank if not required.</small>
<input type="button" value="Cancel"/>	

Exhibit 23: Media Selection – Elements

Enter the appropriate media application	
Record Name :	MT/T2/M26
Types of Media <i>Various digital and non-digital instructional materials for learning activities. User may add other relevant types of media.</i>	<input type="text" value="Graphic materials x"/> <small>Click to select or/and write or/and copy and paste, then Enter</small>
Elements <i>Various aspects or characteristics of media such as video, audio or others, combined to form a media product. User may add other relevant elements.</i>	<input type="text" value="Select your choices or write"/> <small>Click to select or/and write or/and copy and paste, then Enter. Leave blank if not required</small>
Composition <i>Various small breaking items such as objects, background, or others in a specific media, used as generation of ideas in the learning process. User may add other relevant composition items.</i>	<div style="border: 1px solid gray; padding: 2px;"> Animation Audio Graphic Sound Text Video </div> <small>Click to select or/and write or/and copy and paste, then Enter. Leave blank if not required.</small>
<input type="button" value="Cancel"/>	

Exhibit 24: Media Selection – Composition

Record Name : MT/T2/M26	
<p>Types of Media <i>Various digital and non-digital instructional materials for learning activities. User may add other relevant types of media.</i></p>	<input type="text" value="Graphic materials x"/> <p><i>Click to select or/and write or/and copy and paste, then Enter</i></p>
<p>Elements <i>Various aspects or characteristics of media such as video, audio or others, combined to form a media product. User may add other relevant elements.</i></p>	<input type="text" value="Sound x"/> <p><i>Click to select or/and write or/and copy and paste, then Enter. Leave blank if not required</i></p>
<p>Composition <i>Various small breaking items such as objects, background, or others in a specific media, used as generation of ideas in the learning process. User may add other relevant composition items.</i></p>	<input type="text" value="Select your choices or write"/> <p><i>Click to select or/and write or/and copy and paste, then Enter. Leave blank if not required.</i></p>
<input type="button" value="Cancel"/>	<ul style="list-style-type: none"> Background Environment Expectation <li style="background-color: #0070C0; color: white;">Feeling Flora & fauna Foreground

COMPONENT 2: STRATEGIZE



Aspects of analysis:

- Integrating - instructional media
- Accommodating - skills
- Applying - tools
- Instilling - values
- Formulating - instructional questions

Strategy development should be tailored to the aspects and items in Component 1 - Analysis, so that there is continuity in the planning.

(i) Integrating - instructional media: A brief description of how media will be integrated with teachers and pupils in the learning process.

Purpose: The integration and utilization of media in the learning activities are in line with the learning objectives constructed and in accordance with student profiles in general.

Example:

- Pupils watching videos for discussion sessions (if choosing a video clip)
- Pupils reading scripts to select characters in acting (if choosing a printed material).

Exhibit 25: Description of Media Used in Learning Activities

media

Briefly write how selected media are applied

Record Name : MT/T2/M26

Instructional media

Selected Instructional Media:

Graphic materials

(The listed instructional media items are editable).

Add

i. Write, or copy and paste the required texts or leave blank

ii. To edit, double click at the texts, and Click to accept

(ii) **Accommodating - skills** - The selection of items found in this aspect by the teacher includes:

- (a) themes - especially the theme of 21st-century learning, namely environmental literacy, global awareness literacy, health literacy, financial literacy, economics, business & entrepreneurship, civic literacy and other literacy.
- (b) learning and innovation skills especially the 21st-century learning skills (4Cs) - skills in collaborating, communicating, thinking critically and creatively,
- (c) life and career skills - covering leadership & responsibility items ‘
- (d) media, information, and technology skills - covering how the information obtained is capable of generating high-level thinking skills such as Bloom's taxonomic modifications model as well as other required skills

Purpose: providing students with information, knowledge, and skills that will generate their minds.
Building learners’ character enables them to accommodate in their daily life.

Example:

- If the selection of Environmental Literacy is made on the Theme item, the issues discussed need to be broad and global in addition to focusing on its relevance to learning topics such as flood issues, environmental conservation, disease outbreaks and other issues relevant to the topic of discussion.
- If Creativity is selected on the Learning Skills & Innovation items, then the activities that will be implemented should be able to generate student creativity.
- If leadership and responsibilities are made on Life Skills and Career items then the activities that the pupils undertake should demonstrate leadership and accountability.

Exhibit 26: The Selection of 21st-Century Learning Features - Theme

Enter The 21st century skills or other skills		
Record Name :		MT/T2/M26
21st Century Interdisciplinary Themes		
Theme	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Learning and Innovation Skills (4C)	Global Awareness Financial, Economic, Business and Entrepreneurial Literacy	Click to select (or/and) write (or/and) copy and paste, then Enter
Life and Career Skills	Civic Literacy Health Literacy	Click to select (or/and) write (or/and) copy and paste, then Enter
Information, Media and Technology Skills	Environmental Literacy	Click to select (or/and) write (or/and) copy and paste, then Enter
Lower Order Thinking Skills	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
High Order Thinking Skills	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Others (state)		i. Write, or copy and paste the required texts or leave blank

Exhibit 27: The Selection of the 21st-Century Learning Features – Learning & Innovation skills

Enter The 21st century skills or other skills		
Record Name :		MT/T2/M26
21st Century Interdisciplinary Themes		
Theme	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Learning and Innovation Skills (4C)	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Life and Career Skills	Critical Thinking Communication	Click to select (or/and) write (or/and) copy and paste, then Enter
Information, Media and Technology Skills	Collaboration Creativity	Click to select (or/and) write (or/and) copy and paste, then Enter
Lower Order Thinking Skills	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
High Order Thinking Skills	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Others (state)		i. Write, or copy and paste the required texts or leave blank ii. To edit, double click at the texts, and Click (2) to

Exhibit 28: The Selection of the 21st-Century Learning Features – Life & Career Skills

Enter The 21st century skills or other skills		
Record Name :	MT/T2/M26	
21st Century Interdisciplinary Themes		
Theme	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Learning and Innovation Skills (4C)	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Life and Career Skills	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Information, Media and Technology Skills	Flexibility and Adaptability Initiative and Self-Direction	Click to select (or/and) write (or/and) copy and paste, then Enter
Lower Order Thinking Skills	Social and Cross-Cultural Skills Productivity and Accountability	Click to select (or/and) write (or/and) copy and paste, then Enter
High Order Thinking Skills	Leadership and Responsibility Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Others (state)		i. Write, or copy and paste the required texts or leave blank

iii) **Applying** - tools - refers to the application of different types of thinking tools such as mind maps, graphic organizer, i-think, CoRT de Bono thinking tool and other thinking tools. Certain methods, techniques, and activities to be included as discussions, quizzes, collaborative learning, or others.

Example:

- If the Mind Map is selected it should be coupled with items that are appropriate with the methods, techniques, and approaches - such as brainstorming.
- Teachers can also add other thinking tools or methods, techniques, or their own method created.

Exhibit 29: The Selection of the 21st-Century Learning Features – Thinking Tools

Enter the appropriate thinking tools		
Record Name :	MT/T2/M26	
Thinking Tools	Select your choices or write	Click to select (or/and) write (or/and) copy and paste, then Enter
Method, Technique, Approach	Other People's Views (OPV) Recognize, Analyze, Divide (RAD) Mind map	Click to select (or/and) write (or/and) copy and paste, then Enter
Others (state)	Concept map Graphic organizer charts	i. Write, or copy and paste the required texts or leave blank ii. To edit, double click at the texts,

Exhibit 30: The Selection of the 21st-Century Learning Features – Method, Technique, Approach

Enter the appropriate thinking tools		
Record Name :	MT/T2/M26	
Thinking Tools	<input type="text" value="Select your choices or write"/>	<i>Click to select (or/and) write (or/and) copy and paste, then Enter</i>
Method, Technique, Approach	<input type="text" value="Select your choices or write"/>	<i>Click to select (or/and) write (or/and) copy and paste, then Enter</i>
Others (state)	<ul style="list-style-type: none"> Self Access Learning <li style="background-color: #0070C0; color: white;">Brainstorming Future Learning Role play/ Dramatization Outdoor Education Constructive Learning 	<ul style="list-style-type: none"> <i>i. Write, or copy and paste the required texts or leave blank</i> <i>ii. To edit, double click at the texts, and Click <input checked="" type="checkbox"/> to accept</i>

(iv) **Instilling** - values: List the moral values to be instilled in the learning activities
Purpose: The values instilled will create civic awareness in their future life.

Example: If caring is chosen as a preferred value, it should be displayed in the activities organized. Teachers can have an option to add other appropriate values.

Exhibit 31: Instilling - Values

Instilling - values		List of values to be selected in the learning process
Enter the appropriated learning values		
Record Name :	MT/T2/M26	
Values	<input type="text" value="Select your choices or write"/>	<i>Click to select (or/and) write (or/and) copy and paste, then Enter</i>
Others (state)	<ul style="list-style-type: none"> Respectfulness <li style="background-color: #0070C0; color: white;">Caring Sharing Tolerance Forgiveness 	<ul style="list-style-type: none"> <i>i. Write, or copy and paste the required texts or leave blank</i> <i>ii. To edit, double click at the texts, and Click <input checked="" type="checkbox"/> to accept</i>

v) **Formulating - Instructional questions** - brief statements, guidance or essential questions to help teachers in the daily lesson planning activities (DLPs).

Teachers are also given an option to conduct an assessment in knowing the development of the learners' potentials.

Purpose: Activities implemented to meet the objectives of the learning or success criteria based on the stated thinking skills (whether HOTS or LOTS) in the aspects of the learning profile.

Example:

If the learning objectives stated... *Learners can give opinions ..(HOTS)*. The instructional questions or statements should be briefly written.....*learners are asked to give suggestions or solutions.....* instructions should be integrated into the activities that will guide students to create ideas on the topic discussed.

Exhibit 32: Instructional Questions

formulating Settings - ASIE Model - Google Chrome

Secure | <https://asiemodel.net/model/set.php?action=formulating>

(2) Describe the effect or flood upon human life

The main instructional questions or statements based on HOTS
(Statement should be based on the learning objectives or success criteria constructed)
Example
(1) Forecast the weather situation for the next 3 days
(2) Suggest ways to avoid flood in town areas

Add

Write in brief (or/and) copy and paste the main instructional questions or statements based on HOTS which will evaluate learners capabilities in the learning topic, then click Add.
To edit, double click at the texts, and Click to accept

Assessment
(Type of accessments required for classroom activities or as a homework)

Select your choices or write

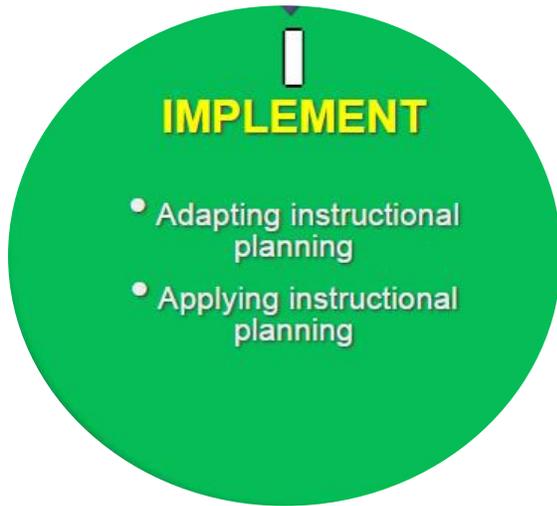
Click to select or/and write or/and copy and paste, then Enter. Leave blank if not required

Others (state)

Add

i. Write, or copy and paste the required texts or leave blank
ii. To edit, double click at the texts, and Click to accept

COMPONENT 3: IMPLEMENT



Aspect of analysis:

This component has 2 aspects:

- (i) Adapting instructional planning
- (ii) Applying instructional planning

- i) **Adapting - instructional planning** - adapting the designs created at this macro level to serve as a guide in the development of a daily lesson plan (DLP) - at the micro level
- (ii) **Applying - instructional planning** - daily lesson plans developed based on this model will be implemented in the learning process

Purpose: Information gathered and displayed in the Multiple Integration Sheet (MIW) can be selected to create multiple DLPs for all classes involved

COMPONENT 4: EVALUATE



Aspect of analysis:

This component has 3 aspects:

- (i) Responding instructional planning
- (ii) Reviewing instructional planning
- (iii) Revising instructional planning lesson

Planning requires self-reflection before or after the learning proses or an evaluation from a colleague, and learners.

This component has 3 aspects that need to be studied:

- (i) **Responding to instructional planning** - responding to the feedback
- (ii) **Reviewing instructional planning** - review the strengths, weaknesses of the instructional planning strategies for improvement
- (iii) **Revising instructional planning** - revising the instructional planning strategies for future redesigning.

Purpose: Further improvement on the strategies developed for future redesigning in producing and sustaining high-quality instructional planning strategies.

MULTIPLE INTEGRATION WORKSHEET (MIW) – PLANNING AT MACRO LEVEL

Information selected or written in the 1st & 2nd component of the model (*Analyze & Strategize*) is compiled or inserted in the MIW. It will be displayed when the user clicks on any aspects of the 3rd and 4th component of the model (*Implement & Evaluate*).

- MIW can be edited for improvement
- MIW exhibits plans tailored to the learning topics. Items of the MIW can be selected to create several daily lesson plans (DLPs)
- MIW and DLPs can be stored as PDF files format.

Exhibit 33: Multiple Integration Worksheet (MIW)

Teachers may select information in each column to create a daily lesson plan (DLP)

Blue text is editable



NAME: ARNI ASREENA BT AZIZ
CLASS LEVEL: YEAR 5
CLASS:
SUBJECT: ENGLISH
DATE: 04-06-2018 TO 08-06-2018
WEEK : 23



SEKOLAH KEBANGSAAN LUKUT
MULTIPLE INTEGRATION WORKSHEET (MIW)

ANALYZE			STRATEGIZE				
(a) Instructional Profile	(b) Learners' Profiles	(c) Instructional Media Profile	(d) Integrating - Instructional Media	(e) Accommodating - Skills	(f) Applying - Tools	(g) Instilling - Values	(h) Formulating - Instructional Questions
<p>Learning Topic 4 Language Arts 5 Grammar 1 Listening and Speaking 2 Reading 3 Writing</p> <p>Content Standard 3.1 By the end of the 6-year primary schooling, pupils will be able to form letters and words in neat legible print including cursive writing 3.2 By the end of the 6-year primary schooling, pupils will be able to write using appropriate language, form and style for a range of purposes. 3.3 By the end of the 6-year primary schooling, pupils will be able to write and present ideas through a variety of media using appropriate language, form and style</p>	<p>Learners' Readiness Pupils have learned about Gunung Mulu Pupils knew the traditional costumes in Malaysia. Pupils have learnt simple future tense.</p>	<p>Types of Media Images Printed materials Elements Text</p>	<p>Instructional media Images Printed materials.</p>	<p>21st Century Interdisciplinary Themes Theme World of Knowledge Learning and Innovation Skills (4C) Critical Thinking Communication Collaboration Creativity Life and Career</p>	<p>Thinking Tools Consider All Factors (CAF) Alternatives, Possibilities, Choices (APC) First Important Priorities (FIP) Recognize,</p>	<p>Values Helpfulness Gracious Resilience Godly Have principles Politeness Responsible (APC) Tolerant Empathy Integrity Thrifty Sensitive Team work</p>	<p>The main instructional questions or statements based on LOTS Describe the pictures to construct simple sentences. The main instructional questions or</p>

Endorsement

Name	Position	Remark	Date	Endorsement
 SABIDAH BINTI MADON	Headmaster SEKOLAH KEBANGSAAN LUKUT		11-06-2018 8:41 AM	Verified 
 DR ISMAIL MD ZAIN	Observer PUSAT BANTUAN	Overall remarks: Congratulation and keep it up.	18-06-2018 1:00 PM	Verified 

Upload Shared Material
Create Daily Lesson Plan
Save as PDF
Print
Open Record
Back to Model

MIW
5 EARTH
5 VENUS

Upload sharing material

Create DLPs

Save in PDF file format

Print MIW

Confirmation/ verification from administrators

List of DLPs that have been created

DAILY LESSON PLAN (DLP) – PLANNING AT MICRO LEVEL

The content of DLP is in 2 parts following the model's component.

- The first part is the information of the selected items from MIW- 1st & 2nd component of the model (*Analyze & Strategize*).
- The second part is the information of the teaching and learning activities (facilitating activities, learners' engagement activities) as indicated in the 3rd component of the model (*Implement*) as well as impact, reflection, and remark as indicated in the 4th component of the model (*Evaluate*).

Exhibit 34: The Daily Lesson Plan (DLP)



NAME: NABILAH BINTI JAMIL
CLASS LEVEL: YEAR 5
SUBJECT: ENGLISH
WEEK: 18
DATE: 30-04-2018
TIME: 11:00 AM TO 12:00 PM

Planning items that has been selected by users from MIW



SK SERTING HILIR 2 FELDA
DAILY LESSON PLAN

ANALYZE			STRATEGIZE			
(a) Instructional Profile	(b) Learners' Profiles	(c) Instructional Media Profile	(d) Integrating - Instructional Media	(e) Accomodating - Skills	(f) Applying - Tools	(g) Instilling - Values
<p>Learning Objectives write at least three out of five sentences using</p> <p>Learning Topic 5 Grammar</p> <p>Content Standard 5.1 Use different word classes correctly and appropriately</p> <p>Learning Standard 5.1.4 Able to use conjunctions correctly and appropriately: (a) although (b) since</p> <p>Performance Standard write sentences</p> <p>Objectives Success Criteria write at least three out of five sentences using</p>	<p>Learners' Readiness Pupils have been exposed to the topic in their previous lesson.</p>	<p>Types of Media Printed materials Elements Text Composition Expectation</p>	<p>Instructional media Printed materials are displayed to pupils EAC Language</p>	<p>21st Century Interdisciplinary Themes Theme Civic Literacy Learning and Innovation Skills (4C) Critical Thinking Life and Career Skills Productivity and Accountability Information, Media and Technology Skills Information Literacy Lower Order Thinking Skills Apply High Order Thinking Skills Reflective skills</p>	<p>Thinking Tools Alternatives, Possibilities, Choices (APC) Method, Technique, Approach Outcomes based learning</p>	<p>Values Responsible</p>

EVALUATE

Learning Impact / Self Reflection

Self-reflection

Supervisors' Remark

Endorsement				
Name	Position	Remark	Date	Endorsement
 DR ISMAIL MD ZAIN	Observer PUSAT BANTUAN	<p>Remarks for this DLP:</p> <p>(Select or leave blank if not required)</p> <div style="border: 1px solid gray; padding: 5px; display: inline-block;">Congratulation and keep it up ~</div>	03-05-2018 8:51 AM	<div style="border: 1px solid gray; padding: 2px; display: inline-block;">Verify</div> 

Set Induction 5 Minutes	Pupils recall how to use 'although' and 'since' by using examples of sentences.	<p>Types of Media Printed materials Elements Text Composition Expectation</p>	Pupils respond to the teacher's questions.		
Step 1 15 Minutes	Pupils do fill in the blanks activity using 'although' and 'since' orally through classroom discussion.	<p>Instructional media Printed materials are displayed to pupils EAC Language</p>	Pupils do fill in the blanks activity orally.		
Step 2 0	In small groups, pupils create sentences using 'although' and 'since' and then discuss their answers in classroom discussion.	<p>21st Century Interdisciplinary Themes Theme Civic Literacy Learning and Innovation Skills (4C)</p>	Pupils do a group discussion.		

Duration and instructional events

Elaboration of intended facilitation activities for learners.

Selected items displayed

Elaboration of expected learners' engagement activities

Information gathered to enrich learners' activities

The impact of the Integral ASIE ID Model

Teachers

- Teachers able to plan and strategize their instruction effectively and professionally that fulfilled learners abilities.
- Time effective
- Reduce teachers' burden in preparing the lesson.
- Provide sharing of ideas, planning documents and resources through its features.
- Establishing unlearn, learned and relearn society - to learn different approaches in educational designing, relearn of new strategies formulated in respond to the changes in educational landscape, and unlearn the past experiences through transformation process in creating awareness of the importance and impact of current innovation in ID towards the 21st century education, establishing a better future living for the next generation in preparing them to the Industrial Revolution – IR4.0 for their future career development. Thus, improve the quality of education and enhance teacher's professionalism, creating awareness towards lifelong learning as required by The Sustainable Development Goal 4 –Education 2030 Agenda (UNESCO).

Learners

- Equal opportunities for gaining knowledge & skills regardless of their differences in capabilities resulting from the high-quality systematic design of teachers' instructions.
- Unleash their potentials through learners' centered approached
- Established globally competitive learners – following the 21-century learning needs
- Inspiring learners – learning are not just gaining knowledge and skills but responding to the industrial needs for future employability.

School Administrators

- Accessible for verification, monitoring and evaluating the process
- Time effective for supervision purposes
- As a mechanism for identifying teachers' competences (strength and weaknesses)
- Assist in identifying the relevant CPD courses for teachers

Education Ministry

- Cost effective – using online ID application
- Time effective – accessible for monitoring, supervising and evaluating the process
- Establishing a complete network and database of teachers' instructional planning

PROFESSIONAL LEARNING COMMUNITY (PLC)

Initially, PLC is a group of educators that meets regularly, shares expertise, and works collaboratively to improve teaching skills and the academic performance of students.

- However, CIDS goes one step beyond by inviting participants from other various communities especially from industries, such as professionals and administrators to become part of the member of PLC communities and to work collaboratively – sharing and contributing expertise, advice, opinions, views, relevant and useful resources, virtually through its advanced features on improving knowledge and skills, towards fulfilling the current and future industrial needs and challenges, with regards to the learners’ future employability issues. Hence, promotes lifelong learning.
- PLC is divided into 2 major communities - public community and private community.
- In Public community (teacher, educator, learner, professional, administrator) everyone may join any of the sub-communities listed.
- In the Private community, the user may create their own community exclusively while others may request for membership.
- CIDS is a “hub” connecting people with different communities around the world collaboratively engaged in building future generations of human capital. This is a social responsibility without involving financial (*non-financial CSR program*) for mutual benefit.

The role of PLC members

- Contribute expertise, views, and advice in respective areas through the communication features in the CIDS:
 - Teaching methods, strategies, or innovations in learning & teaching practices.
 - Knowledge or skill needed for learners’ future employability opportunities.
 - Sharing digital or non-digital materials to enhance the classroom activities
 - Information on the products/nature of works in the workplace /career opportunities, related to the principles of the topic studied in the classroom. Eventually, it will give a great impact in strengthening, motivating and inspiring learners towards a more dynamic learning and teaching process.
 - Other forms of assistance to enhance teachers’ continuous professional development in achieving the 21st Century learning needs as well as industrial requirements establishing “a global personality” amongst their learners.

Exhibit 35: The introduction page of PLC

INTRODUCTION TO PROFESSIONAL LEARNING COMMUNITY
Home / Introduction to Professional Learning Community

[Introduction to PLC](#) [Public Communities](#) [Private Communities](#) [PLC Members](#) [Login / Register](#)

WELCOME TO PROFESSIONAL LEARNING COMMUNITY HOME PAGE
.....connecting..... communicating..... sharing.....

The Professional Learning Community (PLC) is a “hub” connecting professional in various fields including teachers and students collaboratively engage in sharing of information virtually through forum, video chat, video conference and other features for building future high-quality generations fulfilling the needs of the Industrial Revolution era 4.0 (IR4.0) and the Smart Society 5.0 (Society 5.0)

You may join as a member of any of the following communities as appropriate. Your valuable contribution is a great help for teachers and students to relate their studies to the future industrial needs in determining the career paths.

Exhibit 36: Communities of PLC



Public Communities



Teacher
Expert teachers who directly involved in classroom practices. Teachers with special skills



Educator
Professors, lecturers in the higher institution, Researchers, Lecturers in the Teacher's Institute of Education and other related to educational practices



Learner
School Students at various levels, undergraduates, trainee teachers etc.



Professional
Industrial and corporate sectors, Engineers, architects, designers, entrepreneurs, Scientists, Lawyers, and Other sectors



Administrator
Officials from School or Higher institution. Personnel from Ministry of Education. Personnel from other ministries, Personnel /managers from industrial and corporate sectors.



Private Communities

You may create your own community exclusively while others may request for membership

Features of PLC

On-line communication and collaboration are made possible through its user-friendly features either on the main page of PLC or within each community that will inspire learners in the process of searching and share information.

- a. **The main feature of My Profile** – provides features for communication purposes as listed below:

Exhibit 37: The Main Features of My Profile

FEATURES	FUNCTIONS
Profile	View profile, edit profile, change profile photo
Messages	Inbox starred, sent, compose
Members' Communities	Membership, invitations
Sent invites	Invitation to others to join the group
Buddy drive	Sharing of resources
Video Chat	One to one Video chatting
Video Conference	Group video conference

Exhibit 38: Various Features of PLC

The screenshot displays the PLC user interface. At the top, navigation links include 'Introduction to PLC', 'Public Communities', 'Private Communities', 'PLC Members', and 'My Profile'. The user's profile for '@ismail' is shown, with a navigation bar containing 'Communities', 'Profile', 'Messages (22)', 'Members' Communities (7)', 'Send Invites', 'BuddyDrive', 'Video Chat', and 'Video Conference'. A 'Chat' window is open on the right, showing 'CHAT ROOMS (1)' and 'ACTIVE USERS (0)'. Two text boxes with red arrows highlight features: 'Various features that serve as a communication tools' points to the navigation bar, and 'Chat rooms available any time' points to the chat window.

Base	
Name	Dr. Ismail Zain
Job	Adviser Tutor, Malaysia, National Media Mainstream, Former Lecturer Teacher Institute of Education
Expertise	Instructional design, Media integration in the classroom, creativity, motivation, higher order thinking skill 21st century learning skills
Organization	Dynamic Global Vision
Telephone	+60195713745
Address	No 2, Jalan Semangat, Bukit Setia, 31350, Ipoh, Perak

This screenshot shows the 'All Communities' page. It lists several community categories, each with a 'Leave Community' button and the number of members:

- Teacher**: Expert teachers who directly involved in classroom practices. Teachers with special skills. Public Community / 29 members
- Professional**: Industrial and corporate sectors, Engineers, architects, designers, entrepreneurs, Scientists, Lawyers, and Other sectors. Public Community / 19 members
- Educator**: Professors, lecturers in the higher institution, Researchers, Lecturers in the Teacher's Institute of Education and other related to educational practices. Public Community / 33 members
- Learner**: School Students at various levels, undergraduates, trainee teachers etc. Public Community / 4 members
- Administrator**: Officials from School or Higher Institution; Personnel from Ministry of Education; Personnel from other ministries; Personnel fromages from industrial and corporate sectors. Public Community / 19 members

This screenshot shows the 'My Community' page. It displays a list of communities with their names and member counts:

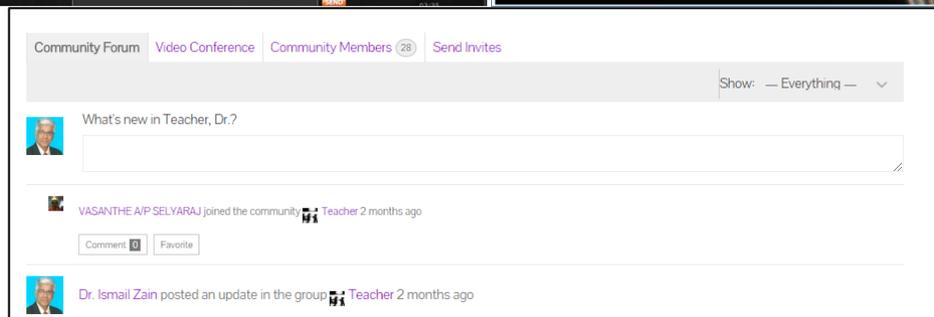
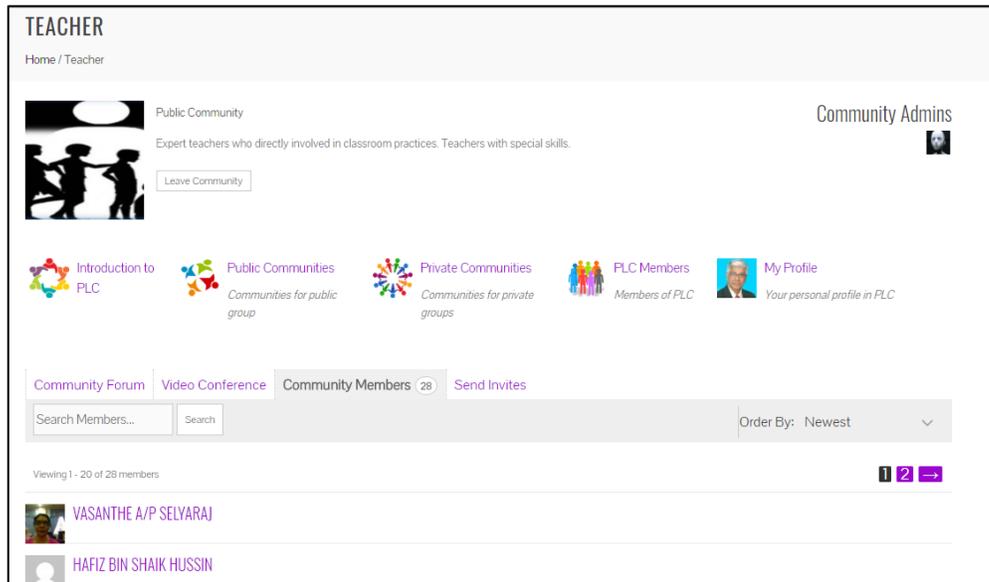
- K Perak**: 191 orang pelajar / tenaga Perak. Private Community / 1 member
- Experimental Group**: Tujuan untuk membina. Private Community / 2 members

b. Features within the Community

There are many other communication features in CIDS within the community. For example, in Teacher’s community available features are as follows:

FEATURES	FUNCTIONS
Community forum	On-line interaction among members
Video conference	On-line video chatting
Send invites	Invitation to become members

Exhibit 39: Teachers’ Community – Video Chat, Video Conference, Forum



SUMMARY

CIDS comprises **The Integral ASIE Instructional Design Model** and advanced features of **Professional Learning Community (PLC)**.

- The Integral ASIE Instructional Design Model **is an integrated strategical approach** to the designing of the instruction in **fulfilling the learners’ needs** in today's learning environment.
- It is **a simple and practical planning tool** that allows teachers **strategize approaches, methods, and activities** for learners to **determine their own choices** that **will inspire them at engaging with learning activities joyfully** while preserving the characteristics of teachers' professionalism in learning and facilitating procedures.
- It responds to the **challenges towards the 21st-century learning** and perhaps **provides a solution for teachers to design instruction professionally, effectively and systematically**.
- The model has the following basic capabilities:
 - Designing instruction at macro and micro level systematically and professionally
 - Allows customization to meet users’ requirements
 - Sharing teaching record (lesson plan) across nations
 - Copy teaching record
 - Searching teaching record
 - Uploading all types of teaching resources
 - Searching & displaying information on global development and issues related to the topic for learners’ co-academic & co-curriculum activities.
 - Guidance, endorsement, and validation of the instructional planning can be carried out professionally at different administrative levels
- Meanwhile the Professional Learning Community (PLC) **is a “hub” connecting professional** in various fields including teachers and students **collaboratively engage in sharing of information** virtually through forum, video chat, video conference and other features for **building future high-quality generations** fulfilling the needs of the **Industrial Revolution era 4.0 (IR4. 0) and the Smart Society 5.0 (Society 5.0)**.
- PLC has the following capabilities:
 - Interacting, communicating and collaborating and sharing of information with communities virtually through the forum, chatting, and video conferencing enhancing and promoting the concept of thinking out of the box.
 - Invites participants from other various communities, such as professionals, either in academic or corporate sectors from industries, entrepreneurs, and administrators to work collaboratively – sharing and contributing expertise, advice, opinions, views and suggestions on improving knowledge and skills, towards fulfilling the current and future educational needs and challenges, with regards to the employability issues.
- For user convenience, CIDS provides user manuals, reference materials, information materials and video guidance to understand and facilitate the application and operation of this model



Register PLC



Login PLC



Login CIDS

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