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# LANGUAGE LEARNING MODEL FOR 4.0. INDUSTRIAL REVOLUTION: Combining Inquiry Model and Contextual Teaching Learning Based on Local Wisdom Value

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## Abstract

*Foreign language teaching in Indonesia has not been giving enough contribution to the mastery of foreign language skill for Indonesian students. Many of the strategies and models have been practiced and developed since last two decades for all level of students but the result of the strategies were not effective yet. The big question to be answered is "why" and "what" might cause the problem of language teaching failure. Based on several researches and theoretical frame work of language teaching there might be a forgotten factor which is very interesting to be included into the models and strategies; it is local wisdom value which consists of local culture, local language and local genius. This article discusses about how and what to combine between the two models of language teaching models by integrating Minangkabau culture perspective. The combination and the development of this strategy will give significant contribution to the mastery of foreign language especially in West Sumatera and Malay speakers in several separated areas.*

**Keywords:** Learning models, Combining, Local wisdom, Industrial revolution

## INTRODUCTION

As we begin on the Fourth Industrial Revolution (4.0), it's clear that technology will play a central role in nearly all aspects of our lives. Research by the World Economic Forum (2015) estimated that 65% of children entering primary school will find themselves in occupations that today do not exist. By 2020 it's estimated there will be 1.5 million new digitized jobs across the globe. At the same time, 90% of organizations currently have an IT skills shortage, while 75% of educators and students feel there is a gap in their ability to meet the skills needs of the IT workforce. To prepare the talent needed for the digital era, education must adapt as fast as the demand for IT skills is growing and evolving.

Insights into the influence of psychological, social, cultural and environmental factors on how we learn are emerging from “the new science of learning”. This approach to understanding education argues that in our complex and rapidly evolving world today, academic models based on interdisciplinary research are necessary to create effective teaching and learning environments.

The fourth Industrial Revolution (IR 4.0) has changed the landscape of educational innovation. IR 4.0 is controlled by artificial intelligence and digital physical frameworks that make human-machine interface more universal. Quick revolution in innovation has delivered another model of education for the future – Education 4.0. To prepare graduates for future life and work achieved by IR 4.0 where more smart robots will supplant people in certain activity divisions, education should harness on pertinent information and abilities that could not be replaced by robots. Innovation interruption that produces Education 4.0 that focuses on educational development and skill has made future learning more customized, hyper, intelligent, portable, challenging, worldwide and virtual.

Abdelkader (2013) states past the 21st century abilities, advanced skill and development, for example, artificial Intelligence (AI), huge information and examination, distributed computing and portable arrangement, online networking, the Internet of Things (IoT), Virtual Reality (VR) and Augmented Reality (AR) with computerized pleasures are in a general sense changing the flow of education and instructional advances landscape into new type of computerized teaching method and smart classroom. IR 4.0 that detonated exponentially has rambled the future learning into wonderland. Sci-fi moves toward becoming science certainty – where creative energy knows no bound; and virtual and augmented reality is crawling into smart classroom. Self-sufficient and intelligent robots, rambles, vehicles and classrooms are joys of the day.

Learning science’s expanded viewpoint is uncovering new approaches to education. Research by Sawyer (2014), a leading scientific expert on creativity and learning, emphasizes the power of technology to influence and enhance academia by providing experiences that lead to deep learning. These include allowing students to learn collaboratively, test out and redesign models, and articulate their knowledge both visually and verbally. Imagine a classroom infrastructure that includes wireless technologies, remotely accessible switches and routers, and collaboration tools to create an “intelligent” environment for the invention of real-world Internet of Things (IoT) products, services, and experiences by students. Students model the networks they create in a simulator

and prototype with cloud-based technology at home. Instructors are empowered with a customizable learning management platform while collaborating with peer instructors across the world.

The most exciting piece is, this is all hardly achievable now. By applying learning science insights to IT education, we can create a dynamic, digital, and hands-on learning experience that is tailored, flexible, and relevant, developing the talent needed to power the digital economy. In language teaching especially, methods and models should also be suited with the technology eventhough the teachers are still interested in using old models.

## **LITERATURE REVIEW**

Challenges in IR 4.0. in education has been promoted by Colin in Omar (2017) where he was worried about educators. He said; “their readiness in responding to the 4th IR, and questioned if universities are capable of managing the convergence, fluidity, power shifts, contingency and ethical issues that came along with the 4th IR. He emphasized that investment in emerging technologies and human connectivity, building digital resilience, as well as institutional capabilities in digital governance and accountability, are key strategies for survival. However, it is unclear whether the higher education community are doing enough to adapt” and “create an enabling environment for learners, academics and practitioners to break barriers, imagine, innovate, create, and collaborate; develop a 4.0-ready ecosystem fitting to institutional contexts; stimulate greater human connectivity through the exchange of students and staff, which is enabled through global and regional networks, and consortium of higher education institutions; incorporate spiritual values, ethics and morality, national identity and a sense of connection to the community, through curriculum delivery and technology transfer; and be mindful of the benefits and risks brought about by the 4th Industrial Revolution.

**Then, Chong (2018) questioned what has inspired your teaching and teacher development this year?** He argued that technological innovations are part of education and English language teaching, but not all have staying power. The novelty of some innovations will wear out, and there are growing concerns about privacy and data protection. Only the innovations that come with solid teaching practices will stand the test of time. There are several learning models which will be useful in 4.0. era, they are:

*First, Embodied learning;* Embodied learning is based on the idea that learning is not just about remembering. It involves using the mind and the body, collaborating, discussing and exploring. Learners need to be emotionally, intellectually, physically and socially engaged. Courses such as Doodle Town (Macmillan Education) use visual, audio and hands-on activities to stimulate and inspire learning, getting young learners to draw, create, and be inquisitive. Orbit (Richmond) develops the young learners' socio-emotional and cognitive skills through a language course that follows the story of a ferret and children who go on adventures in multicultural environments.

*Second, Inquiry-based learning (or: 'learning in a complex world');* the scenarios that teachers come across in some course materials can seem simplified and unrealistic, leading us to wonder if we are adequately training our learners for real life in the 21st century.

*Third, creating and sharing content;* while there's much online content already out there for learners, some programs and apps allow learners to produce their own content and share what they have created with others. Popular online sites like Quizizz and Socrative allow both teachers and students to create online games and play games that are shared by users from around the world. Websites like Canva allow teachers and learners to express their creativity through posters, social media memes and banners. Then there are mindmapping sites, comic-strip creation sites and movie-editing/movie-making sites. Using content-creation tools like these allow learners to use language creatively, and turn language practice into a fun and engaging activity. ELTons finalist Brick by Brick (Stand For / FTD Educação) is one such course for younger learners that has them creating and embarking on hands-on projects as they learn.

*Fourth, Learning and teaching management platforms;* Learning management platforms (LMSs) like Edmodo are increasingly popular. They give learners an online way to find handouts, continue classroom discussions and submit homework. Now, online platforms are also used to communicate with parents and other stakeholders, give teachers and administrators a better overview of the curriculum, and help manage lesson plans and materials.

Talking about Direct method, in terms of its effectiveness, has advantages such as: first, Students are motivated to be able to mention and understand sentence words in foreign languages taught by the teacher, moreover the teacher uses props and various kinds of pleasant media. Second, because this method is usually the teacher initially teaches simple words and sentences that can be understood and known by students in everyday language for example (pens,

pencils, benches, tables, etc.), students can easily capture foreign language symbols taught by the teacher. Third, this method uses relatively many kinds of props: whether video, film, radio cassette, tape recorder, and various multimedia / teaching aids that are made by themselves, then this method attracts students, because they feel happy / interested, then the lesson feels difficult. Fourth, students get direct and practical experience, even though at first the sentence that is spoken has not been fully understood and understood. Fifth, speech / tongues of students / students are trained and if they accept the words that were often heard and spoken.

Teaching can be passive, if the teacher cannot motivate students, it is even possible that students feel bored and feel dull because the words and sentences spoken by the teacher can never be understood, because the teacher only uses foreign languages without being translated into children's language. At the initial levels this method seems difficult to implement, because students do not have the material (vocabulary) that has been understood.

Although this method is basically the teacher may not use everyday language in delivering foreign language learning material but in reality it is not always consistent so, the teacher is forced for example to translate difficult words of foreign languages into the language of students. This method is actually very well used at the beginning and top level because the student feels that he has the material to talk / talk and of course so that students really feel challenged to communicate / communicate; then sanctions can be set for those who use everyday language.

Direct means directly. Direct method or direct method that is a way of presenting Foreign Language subject matter where the teacher directly uses the foreign language as the language of instruction, and without using the language of the students in the least in teaching. If there are words that are difficult for students to understand, the teacher can interpret using visual aids, demonstrating, describing, etc. This method was born as a reaction to the use of the *nahwu wa tarjamah* method that teaches languages like dead languages. And before that since 1850 there had been a lot of propaganda that had campaigned to make teaching foreign languages alive, fun and effective. This propaganda demands a fundamental change in the method of teaching foreign languages. So that quickly a new learning method was born called the direct method.

This method rests on the understanding that teaching foreign languages is not the same as teaching natural science. If teaching exact science, students are required to be able to memorize certain formulas, think, and remember, so in

language teaching, students / students are trained to practice straightforwardly speaking certain words or sentences. Even if the words or sentences are at first foreign and not understood by students, little by little the words and sentences will be able to be pronounced and can also be interpreted.

The characteristics of this method are: 1) The subject matter is first given word for word, then the structure of the sentence. 2) Grammar taught is only casual, and students are not required to memorize grammatical formulas, but the main thing is students are able to speak the language well. 3) In the teaching process always uses aids (props) in the form of direct props, indirect (artificial objects) or demonstrations through certain symbols or movements, and 4) After entering class, students or students are truly conditioned to accept and converse in foreign languages, and are prohibited from using other languages.

## **DISCUSSION**

While experts believe that the human psychology behind learning has not changed vastly over time, the external factors affecting how we comprehend, retain and receive new material are constantly evolving. As the digital revolution accelerates, technology gives us exciting opportunities to shape learning experiences and achieve learning goals. Applying learning science insights to IT education, educators can create a dynamic, digital, and hands-on learning experience that is tailored, flexible, and relevant, developing the talent needed to power the digital economy.

Combining the learning sciences with digital innovation, we can leverage the best of what digitally enhanced and human-driven education have to offer, creating learning experiences that keep pace with the digital skills demanded by the market. In turn, affecting individual lives, supporting business and transforming global communities. Impact of IR 4.0 in Higher education in the fourth industrial revolution (HE 4.0) is an obscure, rationalistic and energizing open door which can possibly change society to improve things. The fourth industrial revolution is fuelled by counterfeit consciousness and it will change the work environment from assignments based attributes to the human focused qualities. As a result of the joining of man and machine, it will diminish the subject separation amongst humanities and sociology and in addition science and innovation. For example, there is one restaurant in Ipoh that use 'celebrity robots' which replaced waiters/waitress to serve the customers. This shows that the automation of services lessen the use of human service. Beyond technology lies

inequality because the accessibility to technology and connectivity are not equal. Many people are displaced because of lost their jobs, 7 billion world population but only 3.5 billion have access to connectivity.

Drucker, 1997 said that, universities won't survive. Higher education is in deep crisis. The college campus won't survive as a residential institution. Today's (collage) buildings are hopelessly unsuited and totally unneeded. This was a true prediction as an innovative coding University established in Paris was launched in 2013 which opens 24/7. There is no a teacher, books or tuition fees. Students work by projects and undergo several internship programs at designated levels. Once the completed the projects, they will earn points for them to go for the next level. In the future there will be a lot of changes in ways of teaching and learning. The content of the teaching, roles of lecturers and students. The logic of education systems should be reversed so that it is the system that conforms to the learner rather than the learner to the system. This is the essence of personalization.

If we want to apply Direct Method in IR 4.0 ofcourse we have to modify the way of how a teacher should behave and related to the technology itself. Direct Method is wellcomed in this era since the steps are arranged based on the computer program. Let's take an exsmample, a teacher can teach language by using Direct Method but he should not behave like a rerel teacher because he can use computer for speaking or giving instruction to his students. Then the students can rersponse the teacher throug microphone.

The sound produced by the computer will be clear and it is easy to repeat again when the students cannot understand for the first time. Teacher just click a menu on the computer and replay the sound again. It can be played over and over. When the students response the teacher instruction, they can say throug microphone and it will be recorded automatically and saved in the processor. If a teacher wanted to know or evaluate their students ability in speaking for example, he can replay the recorded words from his students. It will be very effective and accurate because the computer gives the real works of the students.

Students can also discuss with their friends in the classroom. They can use their own microphone while studying and discussing the materials given by the teacher. Teacher can monitor what the students speak aduring the calssroom.

The challenges of this model are the lack of facilities in most of schools in the rural area. If they have no internet access it is very difficult for the teacher to run the class. Then the ability of teachers to operate and managed a hightech facilities are also the big challenge. Teachers should be trained first and then after the workshop they are assigned to implement this model.

Talking about the integration of the value of local wisdom, the teacher must integrate the related terms of the local wisdom such as; words, phrase, sentence, wise word and proverbs into the foreign language being studied by the students. By introducing this local value, the students will get two information, first is in target language and the second is in source language whether its language and culture. As know, learning a language also means learning a culture.

Our experience in the past decade shown us that teaching a foreign language means only teaching a foreign culture. It was the wrong way and principles at that time. Now the research shows that by integrating the local value into the foreign language teaching will enhance the students' understanding toward the language they are learning. but the problem of this integration is the teacher's competencies are not yet enough in mastering local value and the way of how to teach the value of local wisdom itself.

## **CONCLUSION**

Industry 4.0, similar to all data advancements in general, inheres in its own particular sorts or models of arranging things. More or less, alleged smart frameworks can, from one viewpoint, duplicate straightforward and tedious schedules as digitized large scale manufacturing. For this situation, the digital physical frameworks of Industry 4.0 can be viewed as a generation or a similarity of true types of sorting out social conduct to duplicate schedules.

Each IR has changed the way we live, work and interacts with each other. In this changing environment the managers and the employees have to rapidly adapt. They have to be opened and prepared for new strategies and to understand the fact that risk and innovation are unavoidable. Organizations cannot compete in this ever-changing environment without proper knowledge and lack of capacity for renewal. Managers have to manage the organization in such a manner that the employees will change their vision, ideas and attitudes on long term. Organizations need to see knowledge management as a strategy, this means knowing how to apply knowledge management (KM) concepts to enhance the performance of the system and processes.

The landscape of educational technology was transformed by the IR 4.0. The rapid changes of knowledge have developed the new model of education for the future. Speed, fusion of different technologies, breadth and depth and return to scale makes the 4<sup>th</sup> IR different. Higher education in the fourth industrial revolution (HE 4.0) is an obscure, rationalistic and energizing open door which



can possibly change society to improve things. The fourth industrial revolution is fuelled by counterfeit consciousness and it will change the work environment from assignments based attributes to the human focused qualities.

As a result of the joining of man and machine, it will diminish the subject separation amongst humanities and sociology and in addition science and innovation. For example, there is one restaurant in Ipoh that use 'celebrity robots' which replaced waiters/waitress to serve the customers. This shows that the automation of services lessen the use of human service. Beyond technology lies inequality because the accessibility to technology and connectivity are not equal. Many people are displaced because of lost their jobs, 7 billion world population but only 3.5 billion have access to connectivity.

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