



# Utilization of Local Wisdom as a Learning Source in Designing Learning Tools: Culturally Responsive Teaching Negeri Hila

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**Abstract:** Community Service (known with PkM) activities were carried out by providing training to teachers at SMA Negeri 6 Maluku Tengah in Waitomu Hamlet-Negeri Hila. This activity aims to provide insight into the development of teacher professionalism, more specifically how deep the application of CRT in learning activities at school. This activity is expected to encourage teachers to improve their competence and motivation to become professional teachers. The activity was carried out in a structured and systematic manner in the form of providing in-depth material for teachers. The result of the community service is that subject teachers can develop learning tools based on local wisdom, namely CRT, which utilizes the surrounding environment as a learning resource. In addition, 100% of teachers like this activity, this is because there are many training activities both from the center and local governments, but CRT-based training activities are rarely delivered and are even new to teachers. The school hopes that lecturers can continue to provide assistance and training for teachers at SMA Negeri 6 Maluku Tengah by sharing new things so that they can apply them in learning. By embracing CRT in learning, it can create an inclusive, interesting, and empowering learning experience that meets the various needs of all students and helps close the gap in learning.

**Keywords:** Culturally responsive teaching; Learning tools; Cultural physics.

## Introduction

Society 5.0 (Japan 2016) also known as "Super Smart Society," is a concept derived from Japan's 5th Science and Technology Basic Plan, proposed by the Japanese government in the early 21st century. Society 5.0 aims to integrate digital technologies, such as artificial intelligence (AI), robotics, the Internet of Things (IoT), and big data analytics, into every aspect of life (Bernovskis et al., 2024). This era ensures inclusive and equitable, quality, and student-centered education, and promotes lifelong learning opportunities for all, by providing customized and personalized learning experiences that meet different needs and learning styles (Wang et al., 2024). Improving the quality of education requires efforts to ensure that by 2030, all students have acquired knowledge and skills that support sustainable development and the contribution of local wisdom (Kioupi & Voulvoulis, 2019). Therefore, today's

education demands meaningful learning to support the quality of education. In meaningful learning, the learning environment is created with interesting and relevant things that students need and know in their surroundings (Polman et al., 2021). One important aspect of meaningful learning is connecting new concepts to students' prior knowledge (Vallori, 2014). Therefore, the socio-cultural background of students is important to be considered in education in order to achieve meaningful learning. Culture not only reflects the way of life of a particular society, but also influences the way people learn, teach, and solve problems (Causadias, 2020). The importance of cultural aspects in supporting meaningful learning has received attention in Indonesia, which led to the emergence of the Independent Curriculum. Recognizing the importance of the Pancasila Student Profile in the education of Indonesian children, the government has issued a policy to include the CRT approach as one of the approaches in

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the education of prospective teachers starting in 2022 (Murti, 2023).

Why is the CRT approach important for educators to know? The CRT approach is important for educators to know because this approach is in line with the Merdeka Curriculum, especially the Pancasila Student Profile (P5) strengthening project. Schools in remote areas that implement the "Independent Learning" concept will benefit because they can better integrate local wisdom. "Independent Learning" is a concept of independent and creative learning that allows the parties involved to innovate. "Independent Learning" that is implemented must be based on local potential, especially in remote areas that have a specific culture. When this approach is integrated into the classroom learning process, it will provide important benefits such as: 1) Strengthening student identity; 2) Promoting equality and inclusivity in the classroom; 3) Involving students in learning materials; 4) Supporting critical thinking. The CRT approach originates from the development of a culturally relevant pedagogy framework by Gloria Ladson-Billings in the 1990s (Ladson-Billings, 1995).

Diverse students include students from different cultural, linguistic, economic, racial, ethnic, and religious backgrounds. CRT stands as a beacon of equity and inclusivity in education. CRT is a pedagogical approach that recognizes and embraces the diverse cultural backgrounds, experiences, and perspectives of students in the classroom. Models developed by scholars such as James A. Banks, Geneva Gay, and Gloria Ladson-Billings provide a practical framework for implementing CRT, which promotes culturally inclusive teaching methods and fosters positive intercultural interactions. Implementing CRT involves creating an inclusive curriculum, fostering cultural competence among educators, and fostering positive teacher-student relationships (Abdalla & Moussa, 2024). Teachers should develop and use a variety of approaches to integrating multiculturalism into the curriculum. They should also promote awareness of diversity in schools so that every child feels accepted, respects others, and learns subjects meaningfully and with direct relevance to life in a global society. Children need to develop cultural awareness and skills, both of which are essential to becoming global citizens (Peterson et al., 2015). Culturally responsive teaching not only provides opportunities for students to learn about their own culture, but also helps them learn about the cultures of others so that they can develop cultural sensitivity and appreciation as global citizens (Iwai, 2019).

The background knowledge of learners is basically formed by their experiences in a culture. Cultural practices can be material or immaterial (Ogungbure, 2011). Material practices are physical objects that exist in

the physical or social environment of learners (e.g., dress codes, dance steps, game objects), while immaterial practices are abstract entities (e.g., dialects or languages). The cultural experiences that learners have during their developmental stages are not easily forgotten because they continue to impact learning in positive or negative ways. Therefore, these experiences should not be ignored (Gumbo et al., 2021).

At its core, CRT is characterized by several key principles. First, it emphasizes the importance of cultural competence among educators, encouraging them to develop a deep understanding of their students' cultural backgrounds, values, and communication styles. Second, CRT promotes the integration of culturally relevant content and perspectives into the curriculum, ensuring that students see themselves reflected in the material they are learning. One of the primary benefits of CRT is its ability to increase student engagement and motivation. When students see themselves reflected in the curriculum and feel valued for their cultural identities, they are more likely to feel connected to their learning and actively participate in the classroom (Abdalla & Moussa, 2024). In addition, CRT helps promote critical thinking, empathy, and cultural awareness among all students, preparing them to thrive in an increasingly globalized world (Anyichie & Butler, 2023).

Many teachers want to know how to talk about current events and diversity-related issues in their classrooms. However, many educators do not approach these issues and report very little learning in their educational training (Davis, 2008). Research conducted with prospective teachers found that students' knowledge of diverse cultures is still very limited. (Ladson-Billings, 1995) and revealed that both incumbent and experienced educators often use a pervasive deficit paradigm and blame students and their families for low academic achievement and perceived deficiencies (Darling-Hammond, 2010; Ladson-Billings, 2000; McKenzie, 2001). As a result, there is often a cultural gap between teachers and their students. Thus, when seeking to advance educator preparation and better equip the next generation of teachers to advocate for educational equity, teacher educators and preparation programs must commit to fostering learning that examines how to meet the social and academic needs of diverse student populations. Teachers must develop knowledge and appreciation of diverse cultures, explore how equitable and inclusive practices can be implemented in schools, and envision strategies to challenge existing barriers. Therefore, through this training, teachers can identify local wisdom in their areas that they can integrate into their learning according to their field of study.

## Method

Community service activities (PKM) have been carried out at SMA Negeri 6 Maluku Tengah in Waitomu-Negeri Hila Hamlet, Tanimbar Islands Regency. The number of teachers who participated in this activity was 17 out of 28 teachers. This activity was carried out on Saturday, November 16, 2024. The main resource person in this activity was Dr. Anastasija Limba, M.Pd. Community Service Activities are team activities consisting of Dr. Anastasija Limba, M.Pd (Science Education-Physics and Physics Learning Planning), Heppy Sapulette, S.Pd., M.Pd (Science Education - Physics), Seska Malawau, S.Pd., M.Pd (Science Education - Physics) and John R. Batlolona, S.Pd., M.Pd (Physics Education) Who is a lecturer from the Physics Education Study Program. Before this activity was carried out, the team conducted an initial observation to the school to make preparations in the form of agreeing on the right time to carry out the training activities.

There is an important topic presented in the training activity, namely "Utilization of Local Wisdom as One of the Learning Resources in Designing Learning Devices". In this activity, there was an introduction by the Head of the Physics Education Study Program and the Principal of SMA Negeri 06 Mauku Tengah. This activity aims for training participants, namely teachers, to be able to explore, assess, interpret, synthesize, and provide information to improve the quality of learning in the classroom. The methods used in this training are lectures and discussions. Furthermore, the presenter will give instructions to teachers to write topics related to local wisdom with their respective fields of science. Furthermore, teachers will develop learning tools with the CRT approach.

## Results and Discussion

The training activities were well attended by the teachers of SMA Negeri 6 Central Maluku. This activity was directly monitored by the Principal of SMA Negeri 6 Maluku Tengah (Haris Malawat, S.Pd., M.Pd) who also opened this training activity. The Principal hopes that during the training activities, teachers can focus on participating in activities so that they can develop good classroom learning related to local wisdom. The Principal also acknowledged that there are many training activities from both the center and regions, but CRT-based training activities are rarely delivered and are even new to teachers. The Principal also hopes that lecturers from Pattimura University can continue to provide assistance and training for teachers at SMA Negeri 6 Maluku Tengah by sharing new things so that they can apply them in learning. Before the training

activities began, there was a brief briefing from the Head of the Physics Education Study Program who was also a member of the team for this training activity.



**Figure 1.** Introduction to Training Activities by the Head of the Physics Education Study Program – Seska Malawau, S.Pd., M.Pd who is also the team in the community service activities.

The Head of the Study Program said that training or community service activities are an obligation for lecturers in the demands of the three pillars of higher education, namely teaching, research and community service. In addition, the Head of the Study Program said that in addition to teaching at universities, lecturers must also go down to schools to provide service to teachers and students. Teaching is a job that requires practitioners to periodically update and improve their knowledge, skills, attitudes and values to suit current job demands. Therefore, training and development activities that lead to professional development and teacher professionalism are keywords for the organization. Teacher participation in training and development programs is considered beneficial for them and in some areas of their work (Mabel Anane & Alfred Kuranachie, 2022).

Training is a process of acquiring the skills needed for a particular subject. Training is a valuable practice for teachers to improve their teaching skills (Hafeez, 2021). Trained teachers have more skills and techniques to apply for better academic achievement for students (Ulla, 2018). Teachers who have better teaching skills can also foster students' interest in certain subjects (Giovazolias et al., 2019). When teachers apply various teaching methods and techniques according to the skills acquired, students will achieve higher academic results and student interest will also increase. (Wuryaningsih et al., 2019). The main goal of secondary education is to train students to have good abilities in reflective, scientific and critical thinking (van Leeuwen & Janssen, 2019). Teaching is a learning process in which

knowledge and information is transferred to children to understand the scientific process (Sivarajah et al., 2019).

Mensah Hervie, (2018) also defines training and development as a process designed to enhance teachers' professional knowledge, skills, and attitudes so as to enhance student learning. Training and development programs organized to provide capacity to teachers while they are on duty so that they can meet the changing demands of the job are an age-old practice. Training and development activities are aimed at developing teachers more professionally in order to revitalize them to perform their functions efficiently. The idea of professional development is as old as the teaching profession. Experts believe that the needs of society are constantly changing and teachers must be refreshed with functional prerequisites to better position them to deliver lessons that enhance students' knowledge, skills, and values and attitudes.

Because culture strongly influences the attitudes, values, and behaviors that students and teachers bring to the learning process, better teacher preparation is a major factor in solving the problem of underachievement. The ideas presented here are a brief sketch of a more comprehensive explanation included in my recent book, *Culturally Responsive Teaching: Theory, Research, and Practice* (2000). The specific components of this teaching approach are based on research findings, theoretical claims, practical experiences, and personal stories of educators who study and work with underachieving African, Asian, Latino, and Native American students. This data was

generated by individuals from a variety of disciplinary backgrounds including anthropology, sociology, psychology, sociolinguistics, communication, multicultural education, K-college classroom teaching, and teacher education (Gay, 2002).

PKM activities are carried out by providing training to teachers. This activity aims to provide insight into the development of teacher professionalism, more specifically how deep the application of CRT is in learning activities in schools. This activity is expected to encourage teachers to improve their competence and motivation to become professional teachers. During the training activities, the speakers delivered material related to the independent curriculum which will lead to the importance of CRT being included in classroom learning. During the activities, the teachers were very enthusiastic in participating in this activity. The teachers paid close attention so that the material presented was not missed, especially since according to them CRT was something new to them. Moreover, it is related to the Independent Curriculum at the high school level. This activity is divided into three sessions moderated directly by John R. Batlolona, S.Pd., M.Pd. The first activity is the delivery of material for 1.5 hours related to CRT, then there is a discussion for 30 minutes. Finally, the teacher will be asked by the speaker to identify local wisdom in the Hila region that is related to their respective fields of science. Furthermore, each teacher will develop learning tools with the CRT approach. The presentation of the material by Dr. Anastasija Limba, M.Pd as shown in Figure 2.



Figure 2. Presentation of Material by Dr. A. Limba, M.Pd

Dr. Anastasija Limba, M.Pd hopes that this activity can encourage teachers in preparing contextual-based learning materials. Especially in today's increasingly diverse classrooms with technological advances, educators face the challenge of meeting the needs of students from various cultural backgrounds. By integrating students' cultural backgrounds and experiences into the curriculum and teaching practices, culturally responsive teaching aims to create a relevant,

engaging, and affirming learning environment for all learners (Ayush Mehta, 2024). At its core, CRT recognizes that students' cultural identities shape their learning experiences and outcomes, and thus advocates for teaching practices that respect and affirm these identities (Semião et al., 2023). CRT encompasses a multifaceted framework that seeks to bridge the cultural gap between educators and students. This framework is rooted in the belief that all students, regardless of their

background or heritage, deserve educational experiences that validate their identities and foster their academic success (Diamond & Huda, 2022). Some of the

slides of the material presented during the training can be shown in Figure 3.

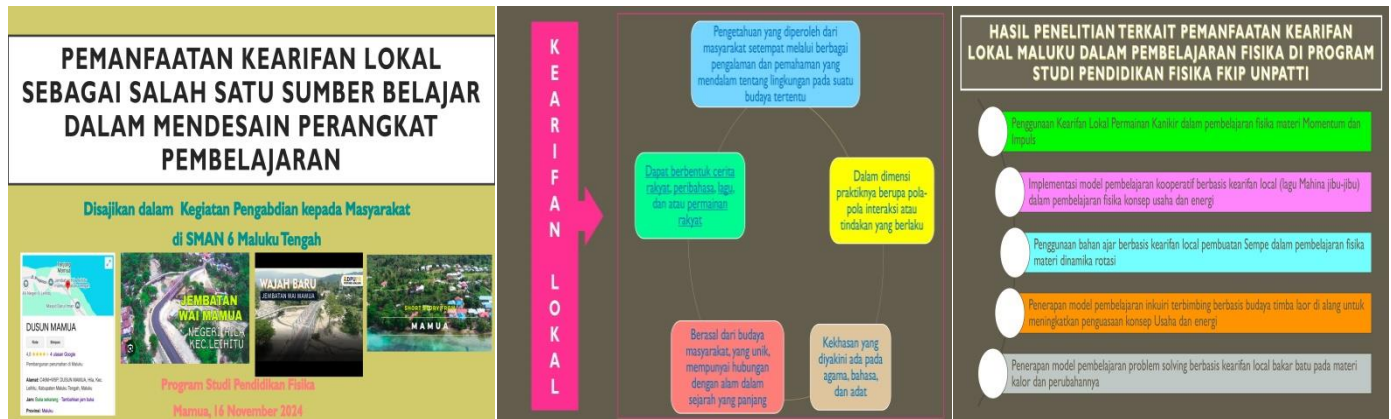


Figure 3. Some Training Activity Material Slides

In the training session, one of the biology teachers who is also the Vice Principal for Curriculum Affairs asked a critical question, namely: What is CRT and why should learning be oriented towards CRT? The speaker answered that CRT is a student-centered approach. This approach is based on the idea that each student brings unique cultural strengths to the classroom. Recognizing and nurturing these strengths not only encourages success but also fosters an open-minded and supportive

environment that values cultural differences. To be successful, CRT must be included at every stage of the learning process, from curriculum development to assessment. CRT is not a secondary or complementary approach to learning. Instead, every learning opportunity and school activity must take into account the students' ancestral and contemporary cultures, beliefs, and traditions.



Figure 4. Guidance for each subject teacher on material related to local wisdom in Negeri Hila

In this 3rd session, mentoring was provided to teachers to write or identify local wisdom in Negeri Hila. Local wisdom also reflects local identity, which then actualizes the potential that exists for the development of the area concerned. Local wisdom is part of communication practices that can practically provide a nuance of activity renewal. Local wisdom is inseparable from tourism. This indicates that to strengthen the tourism sector, what must be done is how to develop local wisdom in the community to be widely introduced to tourists. Tourism communication and local wisdom are part of communication practices so

that tourism based on the context of local wisdom becomes an alternative for choosing a destination. Local wisdom and tourism communication cannot be separated because they are binding, where existing cultural activities are used as tourist attractions so that there is high cohesion in developing the tourism sector based on local wisdom (Oharella & Prihantoro, 2021). Several local wisdom concepts in Waitomu Hamlet-Negeri Hila that are integrated into learning according to the effective subjects by teachers can be shown in Table 1.

**Table 1.** Topics Related to Local Wisdom in Hila Country

Subjects	Local wisdom	Draft
Mathematics	Making Husband Steamer Woven Satay Skewer <i>Jibu Jibu</i>	Geometry Numbers / Data Structures Social Arithmetic or Spatial Structures
Physics	Beklang Game <i>Crazy Bamboo</i> <i>Pahamus</i> <i>Coconut Pica Raw</i> <i>Pata-pata</i>	Number or Chance Kinematics of Motion Business Impulse and Momentum <ul style="list-style-type: none"> <li>▪ Temperature and Heat</li> <li>▪ Business and Country                             <ul style="list-style-type: none"> <li>▪ Newton's Law</li> </ul> </li> <li>▪ Impulse and Momentum</li> </ul>
Biology Citizenship Education	Parang Chopping  Fish Sero <i>month</i> <i>Masohi</i> <i>Pela Gandong</i> Indigenous Peoples	Marine Ecosystem     Pancasila Values in Daily Life
Crafts and Entrepreneurship	Steamer Woven from Coconut Leaves Enggo Sambunyi Running Children's Game The Process of Making a Husband	Functional Crafts Art Processing Concept
History	Old Mosque, Old Church and Amsterdam Fort	Local History



**Figure 5.** Group photo session after training activities

The result of this activity is reflection, namely teachers gain additional knowledge and experience that is useful in developing their capacity as educators. In addition, participants feel that the training activities are very helpful for them to implement it in their respective classes. The success of this program is not only seen from the results of the evaluation and impact analysis carried out. However, from the training activities, participants were also able to produce outputs in the form of CRT learning devices. Furthermore, the end of this activity was able to form a collaborative network between participants, namely schools and study programs in building future cooperation, namely learning, research and community service.

**Conclusion**

The conclusion that can be drawn from this community service activity is that the activity went well

and had a positive impact on all participants. Participants felt the benefits of this activity, so that after the activity was completed, participants could continue it in their classes. The PKM that was carried out succeeded in achieving its objectives very well, namely that participants succeeded in increasing their understanding and skills in developing learning based on 21st century life skills by designing learning devices that are oriented towards local wisdom. In addition, through this activity, participants succeeded in applying new concepts learned in the training activities to their teaching practices. Furthermore, this activity not only provided individual benefits to participants, but also succeeded in forming a collaborative network between participants and educators by creating a space to share ideas, resources, and best practices in teaching. In addition, it is necessary to carry out follow-up activities or advanced training periodically to deepen participants' understanding and skills in developing CRT-based learning. This will help ensure that participants can apply it well in class during learning.

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