

**SOCIALIZATION OF DRIVING SAFETY IN MOUNTAINOUS AREAS FOR THE  
JATILUWIH VILLAGE COMMUNITY**

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**ABSTRACT**

This community services aims to evaluate the community's understanding of road safety in the mountainous region of Jatiluwih, Bali. Jatiluwih, known for its stunning terraced rice fields, faces geographical challenges with narrow, winding, and steep roads, as well as dynamic weather conditions. The lack of knowledge and driving skills in such difficult terrain often leads to traffic accidents. This study employs a descriptive method by conducting safety education and training sessions for 36 local community participants. The education was delivered through engaging images and videos to enhance understanding of road safety. The results show that 98% of the participants were able to comprehend the information on safe driving practices in mountainous areas after the sessions. These findings indicate the need for ongoing educational programs to improve road safety and support sustainable tourism in Jatiluwih.

Keywords: driving behavior; mountain roads; safe riding; safety riding

**INTRODUCTION**

Jatiluwih is a tourist destination known for its natural beauty, especially the stunning terraced rice fields and has been recognized as a World Heritage Site by UNESCO. The village is located in Tabanan Regency, Bali. Village tourism is a form of community-based sustainable tourism development (Heny et al., n.d.). However, the natural beauty of Jatiluwih cannot be separated from geographical challenges, especially related to the road conditions in the mountainous region. Road conditions in mountainous areas such as Jatiluwih are often narrow, winding, and have a high degree of slope. Many roads are sharply winding, steep ups and downs, and some points are prone to landslides or covered by thick fog, which can reduce the driver's visibility. The weather in mountainous regions is also very dynamic; a sudden downpour can make the roads slippery and more difficult to navigate. This adds to the complexity of driving in such areas.

Many motorists, both locals and tourists, do not have an adequate understanding of how to drive safely on mountain roads. This lack of knowledge and skills often results in traffic accidents that not only jeopardize the safety of the motorists themselves, but also others around them. Traffic accidents are closely related to motor vehicle safety and are not solely caused by one factor (Sugiharti et al., 2019). Data from the local police shows an increasing number of traffic accidents in the region, most of which are caused by human factors, such as lack of driving skills in difficult terrain and lack of awareness of existing road conditions.

Seeing these conditions, it is very important to provide education and training to local communities and tourists on safe driving procedures in mountainous areas. This education and training program is expected to build a culture of safe driving in the Jatiluwih area. This community service program has several objectives as follows: Meningkatkan Kesadaran dan

Pengetahuan dengan cara memberikan edukasi tentang keselamatan berkendara di wilayah pegunungan untuk masyarakat lokal dan wisatawan

1. Reduce the number of accidents by attending practical training to reduce traffic accidents.
2. Creating a Safe Driving Environment by helping to create an orderly and safe traffic.
3. Supporting Sustainable Tourism by Improving the safety and comfort of travelers.

## **METHOD**

Driving safety education activities in the mountainous region of Jatiluwih Village are carried out through direct learning to the community. This approach is through images and interesting learning videos. Learning videos were chosen as a learning tool because they can increase interaction in the teaching and learning process (Farabi, 2021) and help deliver material in a more dynamic and interesting way (Moreno & Mayer, 2007). This education involved 36 residents of Jatiluwih tourist village. The purpose of this hands-on learning is to provide information to the community, with guidance from the community service team and make it easier for people to understand safe driving procedures in mountainous areas. Hopefully, this program can increase the awareness and driving skills of the community in Jatiluwih Village, reduce the risk of accidents, and support a sustainable tourism sector in the area.

Learning activities are designed to suit the level of understanding of the Jatiluwih Village community. The material or information is delivered in a way that is interesting and easily understood by the community. Given that driving safety material is a complex topic, more interesting information transformation tools are needed.

The implementation of driving safety learning is done through the following stages:

### **1. Preparation Stage**

- a. Service team discussion to determine the theme and location of the activity. This stage is very important to ensure that the topic chosen is in accordance with the needs of the local community and the challenges faced in driving in mountainous areas.
- b. Pre-implementation visit for site survey. The field survey aims to identify the real conditions in the field and adapt the training materials to local characteristics (Israel et al., 2001).
- c. Preparation of proposals and submission of activities to obtain approval from relevant parties.
- d. Preparation of materials and equipment, including visual aids and evaluation tools such as post-test.

### **2. Implementation Stage**

- a. Delivery of Educational Materials Delivery of materials is done using interactive learning methods through visual media, such as images and videos. This multimedia approach has been shown to be effective in increasing participants' engagement and reinforcing their understanding (Mayer & Moreno, 2010). Learning videos are used to convey complex driving safety concepts in a more interesting and understandable way. The material presented was tailored to the needs and characteristics of the Jatiluwih Village community, with a focus on basic understanding of driving safety in mountainous terrain. This is in line with the finding that visual media-based learning helps reduce participants' cognitive load and makes it easier for them to absorb information (Mayer, 2017).
- b. Discussion and Q&A After the presentation of the material, a discussion and Q&A session was held to provide participants with the opportunity to dig deeper into the

material that had been presented. This discussion not only allowed participants to ask questions, but also provided space for them to share their experiences related to driving in mountainous terrain. This interactive discussion approach supports the constructivist learning model, which emphasizes active and collaborative learning where participants are directly involved in the process of developing their knowledge (Chai et al., 2013). This model is effective in developing practical skills and improving participants' understanding.

- c. **Post-test and Evaluation of Understanding** To assess the participants' level of understanding of the material presented, a post-test was conducted after the training session. This post-test was used to measure changes in participants' knowledge of safe driving in mountainous areas. Such test-based evaluation helps to identify the extent to which participants are able to apply the information learned in real situations (Scriven, 2015). The post-test results will also be used to evaluate the effectiveness of the educational activities and to plan future improvements.
- d. **Distribution of Supporting Materials** As part of the strategy to reinforce learning, each participant was given supporting materials in the form of stickers, flayers and souvenirs containing practical information on safe driving in mountainous terrain. The distribution of these materials aims to provide additional references that participants can access at any time. These printed media and souvenirs are effective in prolonging the impact of the training and enabling participants to remember and apply the information learned in their daily lives (Van der Meijden et al., 2012).

### 3. Evaluation Stage

- a. **Assessment of Post-test Results** After the implementation of driving safety education activities, a post-test was conducted to measure changes in participants' understanding of the material presented. This assessment aims to assess the extent to which participants have internalized the information provided and can apply it in a real context. The post-test used in this activity includes knowledge-based questions and practical skills related to safe driving in mountainous areas. This test-based evaluation is important in determining the effectiveness of the learning method used (Mekki et al., 2018). The post-test results are also important indicators in planning program follow-up and improvements for similar educational activities in the future.
- b. **Reviewing the Results of Implementation** Reviewing or analyzing the results of the implementation of activities is carried out by assessing whether the objectives set at the preparation stage were achieved. This evaluation does not only include test results, but also involves assessing the process of interaction between participants and facilitators, the quality of the material delivered, and the level of satisfaction of participants with the training provided. This review refers to Kirkpatrick's evaluation model which assesses training effectiveness based on four levels: participant reaction, learning, behavior change, and outcomes (Kirkpatrick & Kirkpatrick, 2016). Assessing participants' satisfaction levels and the direct effect of the training on their driving behavior will provide a more comprehensive picture of the program's success.
- c. **Preparation of Activity Result Report** After the evaluation stage is complete, the service team will compile an activity result report which includes analysis of post-test results, review of implementation, and recommendations for further program development. This report aims to document the entire community service process and provide evidence that can be used to plan similar programs in the future. It also helps in critically reflecting on the methods used and provides guidance for stakeholders in improving the effectiveness of future driving safety education activities (Chen et al., 2017).

## **RESULTS AND DISCUSSION**

The implementation of all methods of the stages of community service activities regarding the socialization of driving safety in mountainous areas for Jatiluwih villagers can be described as follows.

### **1. Preparation Stage**

- a. A community service team discussion was held to determine the theme and location of the activity. Based on the results of this discussion, it was found that the majority of people in Jatiluwih Village, Penebel District, Tabanan Regency, still dominantly use motorbikes as the main means of activity and transportation. This is of particular interest because Jatiluwih Village is a tourist area with mountain roads that are often crossed by tourists. The main road of this village has characteristics that are congested by various types of vehicles, ranging from small to large people transportation vehicles that transport agricultural materials and tourists. Therefore, it is deemed necessary to organize educational activities with the theme of building awareness of safe driving in the Jatiluwih mountainous area through an educational and participatory approach. Kunjungan lapangan ke lokasi pengabdian kepada masyarakat dilakukan untuk berkoordinasi dengan pihak pengelola Desa Jatiluwih dan melihat kondisi riil wilayah serta lalu lintas yang ada di sana. Berdasarkan hasil kunjungan ini, ditemukan bahwa permasalahan keselamatan berkendara di desa ini cukup serius karena lalu lintas yang padat dan karakteristik desa sebagai wilayah pegunungan. Hal ini meningkatkan risiko kecelakaan saat berkendara. Hasil kunjungan ini juga mengindikasikan perlunya penyampaian informasi dan pembelajaran tentang keselamatan berkendara secara edukatif dan partisipatif kepada masyarakat setempat.
- b. Preparation of learning materials and technical discussions on the implementation of socialization. The team compiled learning materials that would be delivered to the Jatiluwih Village community. The material was prepared by considering driving behavior that affects driving safety (Muryatma, 2017). The material was divided into three main parts, namely preparation for driving, how to drive properly and correctly, and things to consider when driving on mountain roads. The technical implementation of learning is planned through several stages of activities, namely the delivery of material communally through socialization, distribution of post-test sheets as a measure of understanding of the material presented, filling out post-test sheets by socialization participants, question and answer discussions based on post-test sheets that have been done, and distribution of stickers, souvenirs, and leaflets or flayers containing important points of the material presented. The leaflets were distributed to the entire Jatiluwih Village community who joined in this driving safety socialization activity. Leaflets are used as socialization media because based on research by Nafiah and Jumino (2019) and Siregar, et al (2022) it can be concluded that leaflets or brochures provide influence and effectively increase understanding of a material.

### **2. Implementation Stage**

The implementation of activities to build awareness of safe driving in the Jatiluwih mountainous area through an educational and participatory approach was held on July 12, 2024 at the Jatiluwih Village office hall. The implementation stage consists of:

- a. Delivery of material for all participants who attended, namely the Jatiluwih village community about Safe Driving Awareness in the Jatiluwih Mountainous Area. Material delivery is carried out in an interactive, interesting way, and participation from the community in discussions so that the material can be accepted by the Jatiluwih village

community. Learning is delivered in a fun way by displaying materials and visualizations such as photos and videos about driving procedures in mountainous areas to facilitate understanding. The people of Jatiluwih village also carried out activities in the form of answering post tests after the socialization activities ended. This posttest is in the form of multiple choice questions that are relevant to the material that has been delivered. The learning materials presented in this session were related to the preparations that need to be done when driving in mountainous areas, things that should not be done when driving, safe driving techniques, how to maintain concentration when driving, and tips for driving on slippery roads.



Picture 1 Material delivery

- b. After obtaining information and understanding of the material on how to drive on mountain roads, continued with the sharing of the post-test sheet that had been prepared. To increase active participation and ensure that the community really understands the material that has been delivered, the speaker provides a post-test sheet in the form of questions related to the driving procedures that have been delivered. The speaker gave instructions to the participants on how to take the post test and provided assistance in filling it out.
- c. Completion of the post-test sheet by the socialization participants. The post-test sheet completed by the participants of the mountain road safety socialization covered three main categories: preparation before riding, appropriate actions during riding, and general safety understanding. The questions on pre-ride preparation tested the participants' knowledge of the steps that need to be taken before starting a trip, such as checking the condition of the vehicle. Meanwhile, the actions during riding questions assessed participants' understanding of safe driving techniques on mountain roads, including how to deal with sharp turns and speed management. Finally, the questions on general safety understanding evaluated participants' knowledge of the risks of driving on mountain roads and appropriate mitigation measures.
- d. After filling out the post-test sheet, the speaker invited the Jatiluwih community to conduct a discussion session and provide further explanation of the material that had not been understood. This question and answer discussion was based on the post-test sheet that had been done. This not only made the atmosphere more lively, but also encouraged the community to pay more attention and remember the information that had been given.
- e. The activity was closed with the distribution of stickers, souvenirs, leaflets containing important points from the material presented and distributed to socialization participants in Jatiluwih Village. This leaflet contains practical guidance for the community in

carrying out daily driving activities in mountainous areas that have their own challenges. It is also hoped that through the distribution of this leaflet, the people present can exchange information with their friends and family about driving procedures on mountain roads and can apply it in their daily lives, especially in safe driving in mountainous areas. The leaflet contains safe driving techniques on winding terrain, the importance of checking vehicle conditions before traveling, as well as steps to be taken in emergency situations. The souvenir raincoats were distributed as an effort to distribute safety equipment when driving in the rainy season. The use of these raincoats will help people who ride motorcycles in the rain to be able to stay focused on driving and concentrate better without worrying about the rain that is falling.

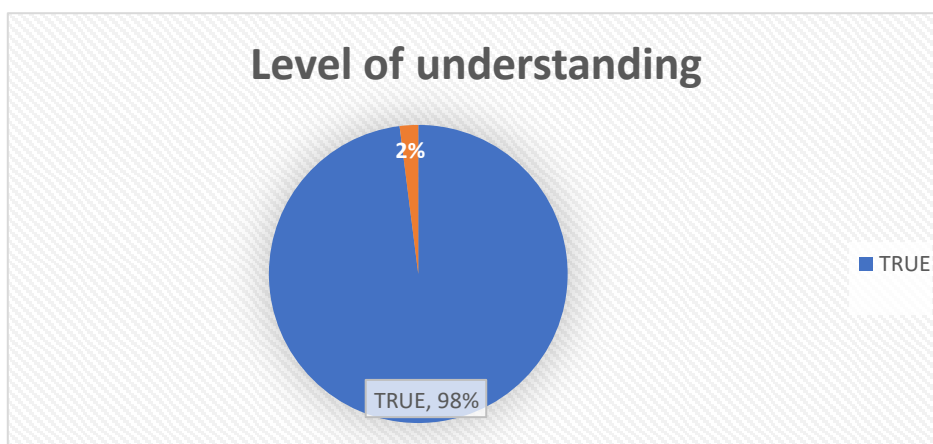


Gambar 2. Leaflet Materi Sosialisasi

### 3. Evaluation Stage

4. The final stage in the activity of Driving Safety Socialization in Mountainous Areas for the Jatiluwih Village Community is evaluation. This stage was carried out by reviewing the results of the activity as a form of feedback from the participants for the implementation of

driving safety socialization activities. The implementation of this evaluation was carried out by distributing post tests to participants about the content of the material that had been presented.



Gambar 3. Hasil post test

The results of the driving safety socialization activities were obtained through the final evaluation given to the participants who participated in the socialization. Through the post test given and filled out by all participants, it shows that 98 percent of participants were able to understand the information and material on how to drive safely on uphill roads. It can be concluded that most participants have successfully understood the material provided regarding safe driving in mountainous areas. This reflects the effectiveness of the information delivery and the quality of the educational materials presented. Although only 2% of participants gave incorrect answers, this indicates the need for further evaluation or the addition of additional materials to ensure that all participants have a uniform understanding. Overall, these results show that the socialization activity has successfully achieved its main objective of raising awareness and knowledge about safe driving in mountainous areas.

One of the important points conveyed in the socialization of safe driving on mountain roads is the use of low gears when going uphill and the use of horns on sharp turns. Many participants initially did not realize the importance of using a low gear on an incline, thinking that driving in standard gear was enough to overcome the incline. Similarly, they did not understand the importance of using the horn on sharp corners to alert other drivers. After the socialization, participants began to realize that the use of a low gear can help them more easily negotiate inclines safely, and the use of the horn is essential to improve visibility and safety on curves. In addition to an increased understanding of safe driving techniques, the majority of participants were also able to successfully apply these techniques, with 98% of participants demonstrating good skills in using low gears and horns according to the situation. Nonetheless, there is still a need to raise awareness of these techniques, especially among participants who are not accustomed to applying them. Therefore, it is important to continue educating and providing supportive facilities, such as practical training on the use of low gears and horns, to better maintain safe driving on mountain roads.

## CONCLUSION

1. The driving safety socialization program in Jatiluwih Village, Bali, has successfully increased community awareness and understanding of the importance of safe driving in mountainous areas. Using engaging images and videos and hands-on training to 36 participants, the evaluation showed 98% of participants understood how to drive safely after the socialization.

2. Awareness and application of driving techniques, such as the use of low gears when going uphill and the use of horns on sharp corners, increased significantly. Although the majority of participants were able to apply the techniques well, there is still a need for further education for those who are struggling.
3. The program was successful in improving driving knowledge and skills, reducing the risk of accidents, and supporting sustainable tourism in Jatiluwih. It is recommended to continue the education program and add practical training so that all communities have a uniform understanding and skills.

## REFERENCES

- Chai, C. S., Lim, C. P., & Tsai, C. C. (2013). Sustaining teacher knowledge management: The role of digital technologies in constructing and disseminating knowledge. *Education and Information Technologies*, 18(1), 21-41.
- Chen, R., Lee, C., & Hsu, Y. (2017). Effectiveness of road safety education for improving road safety behavior in schoolchildren: A review of literature. *Journal of Safety Research*, 61, 61-72.
- Dewi, M. H. U. (2013). Pengembangan desa wisata berbasis partisipasi masyarakat lokal di Desa Wisata Jatiluwih Tabanan, Bali. *Jurnal Kawistara*, 3(2).
- Farabi, M. C. A., Frederick, J.M., Mahardika, R., Hakim, Wildan. (2021). Inovasi Video Based Learning Dalam Meningkatkan Interaksi Pada Proses Belajar Mengajar. *Lomba Karya Tulis Ilmiah*, 2(1), 43–56. Retrieved from <https://journal.itelkom-sby.ac.id/lkti/article/view/116>
- Kirkpatrick, D. L., & Kirkpatrick, J. D. (2016). *Kirkpatrick's Four Levels of Training Evaluation*. ATD Press.
- Mayer, R. E. (2017). *Multimedia learning* (3rd ed.). Cambridge University Press.
- Mayer, R. E., & Moreno, R. (2010). Nine ways to reduce cognitive load in multimedia learning. *Educational Psychologist*, 42(1), 31-41.
- Mekki, M., Khatib, H., & Ibrahim, M. (2018). Assessing the effectiveness of a road safety educational program for children: A post-test evaluation approach. *Traffic Injury Prevention*, 19(7), 688-694.
- Muryatma, N. M. (2018). Hubungan Antara Faktor Keselamatan Berkendara Dengan Perilaku Keselamatan Berkendara. *Jurnal Promkes: The Indonesian Journal of Health Promotion and Health Education*, 5(2), 155–166. <https://doi.org/10.20473/jpk.V5.I2.2017.155-166>
- Nafiah, S., & Jumino, J. (2019). Efektivitas Brosur Sebagai Media Pendidikan Pemakai Untuk Meningkatkan Pengetahuan tentang Perpustakaan di SMA Negeri 3 Semarang. *Jurnal Ilmu Perpustakaan*, 8(4), 249-259. Retrieved from <https://ejournal3.undip.ac.id/index.php/jip/article/view/26963>
- Scriven, M. (2015). The logic of evaluation. In *Evaluation Roots: A Wider Perspective of Theories and Practices* (pp. 11-27). Sage Publications.
- Siregar, F. M. ., Panggabea, S. ., & Simanjuntak, H. . (2022). Pengaruh Penggunaan Media Brosur terhadap Kemampuan Siswa Menulis Teks Prosedur Kelas XI SMA Swasta Hosana Medan. *Jurnal Pendidikan Tambusai*, 6(3), 13587–13604. <https://doi.org/10.31004/jptam.v6i3.4476>
- Sugiharti, E., Saleh, M., & Mustikasari, M. (2019). Analisis Faktor Potensi Penyebab Kecelakaan Lalu Lintas Kendaraan Bermotor. *Jurnal Manajemen Bisnis Transportasi dan Logistik*, 5(3), 367-374.
- Van der Meijden, A., Koot, H. M., & de Lange, A. (2012). Effectiveness of printed material in safety education for road users. *Traffic Injury Prevention*, 13(4), 348-356.