The phenomenon of low student knowledge about the value of biodiversity can have an impact on reducing awareness of biodiversity loss. Efforts are made to study biodiversity value related to indigenous knowledge because biodiversity and indigenous knowledge have a close relationship. The indigenous knowledge of the Sambas people, known as *Bubbor Paddas*, has the potential to educate about biodiversity. The purpose of the research was to study *Bubbor Paddas* for an educational video of biodiversity. Another objective is to ascertain audience’s perceptions of the educational videos that have been produced. The research methodology employed was field exploration, employing ethnobiological principles, to assess the *Bubbor Paddas*. A survey using questionnaires was also conducted to determine perceptions of the video. The making of *Bubbor Paddas* uses certain tools and processes. There are 25 plant species and one animal species used in making *Bubbor Paddas*. The 25 plant species belong to the clade or class of eudicots, monocots, magnoliids, and polypodiopsida. The animals used are anchovies from the class Actinopterygii. The educational video was uploaded via YouTube and a duration of 7 minutes, 46 seconds. The video is classified within an appropriate category, as it meets the criteria set forth in the video assessment indicators. Respondents stated that the video quality was good. A total of 69.23% strongly agreed that the *Bubbor Paddas* educational video provided new knowledge for the audience. The *Bubbor Paddas* educational video is expected to be an alternative to accommodate the low knowledge of the value of biodiversity.

**Keywords:** *Bubbor Paddas*, indigenous knowledge, biodiversity value, educational video
Biodiversity is one of the topics learnt by students in Indonesia. In the independent curriculum, biodiversity is studied in grade X (Keputusan Kepala Badan Standar, Kurikulum, Dan Asesmen Pendidikan Kemdikbudristek Nomor 008/H/KR/2022, 2022). Biodiversity is found everywhere (Coracero et al., 2022). Biodiversity is all forms of life on earth, consisting of various levels, ranging from genetic to ecosystem levels (Bappenas, 2015). Biodiversity refers to the diversity of all types of life on Earth, including plants, animals, microorganisms, genes, and the ecosystems they create (Gour, 2022; Kusmana, 2015). Biodiversity is an important part of valuable natural assets that provide many human needs and insure against environmental disasters (Heydari et al., 2020).

Unfortunately, several studies have shown students' low of knowledge on the topic of biodiversity because it is considered difficult. Research by Zarisma et al. (2016) showed that the highest learning difficulty was in the indicator of classifying the plant world. The writing of Christanty et al. (2021) also said that students have difficulty in plant world material in compiling classifications and identifying the general characteristics of the plant world. Furthermore, research has demonstrated that the fundamental concepts of animal diversity and classification are often challenging to comprehend. According to Fitri et al. (2021) students have difficulty understanding the characteristics of Kingdom Animalia. In addition, research by Agustin et al. (2020), shows that students generally do not understand the concept of vertebrates.

The topic of biodiversity should be mastered by students because it demands learning outcomes. The learning outcomes in the Merdeka Curriculum Classroom state that understanding biology includes material on biodiversity and its role (Kemendikbud, 2022). In addition, these students live in Indonesia, a country with rich biodiversity. It is unfortunate if students' knowledge is poor in areas rich in biodiversity. Low knowledge of biodiversity, especially plant and animal species, will have an impact on awareness of the importance of biodiversity.

The low knowledge of plant and animal species is due to several factors. These factors include students, teachers, books, teaching methods, and context (Jayanti & Susantini, 2021). The current challenge is to teach biodiversity in biology learning. We can connect the topic of biodiversity with indigenous knowledge. Biodiversity has a close relationship with indigenous knowledge or local wisdom (Gadgil et al., 1993; Toledo, 2013). Indigenous knowledge is local knowledge unique to a particular culture that is acquired by local communities through the accumulation of experiences passed down through generations (Adam et al., 2019; Chikaire et al., 2012; Senanayake, 2006). Indigenous knowledge is also evident in Bubbor Paddas, which utilises biodiversity in the form of organisms in its production. Bubbar Paddas or Bubur Pedas or Spicy Porridge is a food of the Malay tribe in Kalimantan (Sularsih et al., 2023).

Previous studies have examined Bubbor Paddas. Maswita’s research (2021) examines anthropologically in relation to the month of Ramadan. Wilujeng (2020) research on consumer perceptions of spicy porridge. In addition, research by Sularsih et al. (2023) developed branding and marketing of Bubbor Paddas products through social media. Lestari & Purwayantie's research (2018) examined the calories and glycemic index of spicy porridge. None of these studies have examined the ethnobiology of spicy porridge and integrated it into learning. Ethnobiology is used to examine the use of biodiversity in Bubbor Paddas. Ethnobiology is in an interdisciplinary stage, where greater cooperation among researchers from different fields is sought to address more complex issues that may affect biodiversity and culture (Sobral & Albuquerque, 2016).

The effort made to teach biodiversity integrated with indigenous knowledge is to make an educational video for Bubbor Paddas through ethnobiological studies. Ethnobiology can play an important role in elaborating ideas about local expertise by documenting the complexity of traditional knowledge beyond academic research (Ludwig & El-Hani, 2020). The ethnobiological study of Bubbor Paddas encompassed an examination of the tools utilised in their fabrication, the biological components employed in their composition, and the techniques employed in their production. Therefore, the aim of this study was to ethnobiologically assess Bubbor Paddas and create an
educational video about *Bubbor Paddas*. This research also describes the audience’s perception of the educational video that has been made.

The urgency of making educational video and studying *Bubbor Paddas* is that these videos are expected to support students’ knowledge of the importance of biodiversity for the utilisation of traditional foods. Video is a commonly used tool for teaching and learning, as it enhances information acquisition through both visual and auditory channels (Wu, 2016). In addition, introducing indigenous knowledge through educational video can provide knowledge and awareness of loving culture.

2. Method

The research methodology employed was that of a field study or field exploration, with the objective of investigating the *Bubbor Paddas*. Field exploration was conducted using interviews and documentation. In-depth interviews were conducted with key informants who possessed detailed knowledge about *Bubbor Paddas*. The interviews were conducted at the location indicated on Jalan Saing Rambil in Surian Village, Sambas. Interviews were conducted via zoom because the researcher’s condition did not allow him to conduct interviews at the research location. The interview included the tools and materials of *Bubbor Paddas* and how to make it. The interview data was also matched with a literature study with the keywords such as spicy porridge and *Bubbor Paddas*. In addition to their role in data enhancement, literature studies facilitate the integration of indigenous knowledge with Western or modern science. The results of the interview data were reduced and analysed using descriptive qualitative.

The findings of the interviews and research documentation were subsequently transformed into an educational video. In making the educational video, researchers simulated the making of *Bubbor Paddas* by preparing equipment and buying ingredients and spices at Pasar Senen. Furthermore, the process of making *Bubbor Paddas* and making videos was carried out at the Yap Thiam Hien Dormitory of Universitas Kristen Indonesia. The educational video that has been made is then shared with respondents via a YouTube link. The educational video was evaluated by respondents to ascertain their perceptions of the educational video.

The survey method was employed to ascertain respondents’ perceptions of the video. The respondents included prospective biology teachers (students), teachers, students, and other individuals who had viewed the educational video. The 78 respondents were asked to watch the video and fill in the questionnaires. The questionnaire consists of 11 questions which are the results of modifications to the video assessment rubric from the SMM Conference (2021). The indicators include content and message, relevance, educational value, organisation, grammar, delivery and narration, production and editing techniques, audio and sound, visuals and graphics, video quality and camera techniques, and creativity. Data were analysed using descriptive statistics.

3. Results and Discussion

*Bubbor Paddas* or bubur pedas or spicy porridge is a traditional food made from rice. *Bubbor Paddas* is a typical porridge from the Malay Ethnicity, Sambas Regency (Lestari & Purwayantie, 2018). Spicy porridge is known to originate from Sambas and Pontianak, West Kalimantan (Oktavianawati, 2018). Sambas has a majority population of Malay, Chinese, and Dayak ethnic groups (Barella et al., 2023). The people of Sambas are known as people who strongly maintain their traditions, with the majority being Muslim and of Malay ethnicity (Januardi et al., 2022).

*Bubbor Paddas* is also found in other areas with Malay tribes. Bubur pedas is also found in Malay tribes living around the East coast of North Sumatra, especially in the regencies of: Langkat, Deli Serdang, Serdang Bedagai, Asahan, Batubara, Labuhan Batu, Labuhan Batu Selatan, Labuhan Batu Utara, Medan City, Binjai, Tanjung Balai, and Tebing Tinggi (Maswita, 2021; Sartika & Wahidah, 2013). *Bubbor Paddas* is processed from roasted rice flour and mixed with various vegetables and spices to create a combination of distinctive flavours and aromas (Rusiardy
et al., 2014).

*Bubbor Paddas* comes from the words *bubbor* or *bubur* or porridge and *paddas* or *pedas* or spicy. Despite the word ‘pedas’ (spicy), this porridge does not use chilli as an ingredient (Lestari & Purwayantie, 2018; Oktavianawati, 2018) but comes from roasted and finely ground pepper (Maswita, 2021). Another article by Rahayu (2019) says that the spicy flavour comes from *Kesum* leaves, and it is these *Kesum* leaves that are the characteristic spices in *Bubbor Paddas*, and cannot be found in porridge in general. Therefore, there are some differences in *Bubbor Paddas* food ingredients between one region and another regarding this *Bubbor Paddas* (Sartika & Wahidah, 2013).

*Bubbor Paddas* utilise a variety of herbs as ingredients. Spicy porridge is made from a variety of vegetables, tubers, beans, roasted rice (*digonseng*) and spices, as well as several types of fish and several types of shellfish and even chicken and beef as *perencah* (Maswita, 2021). The ingredients used are ferns, kale, turmeric leaves, kencur, bean sprouts, sweet potatoes, long beans, white cabbage, carrots, corn, kesum leaves, and selected and quality spices (Wilujeng, 2020).

Other traditional foods, *Bubbor Paddas* also appears on certain occasions although now it can be found at any time. *Bubbor Paddas* is commonly found during iftar, recitation events, and family parties (Sartika & Wahidah, 2013). Spicy porridge is made from finely ground rice and then roasted with grated coconut and spices and cooked with vegetables (Oktavianawati, 2018). The tools used in making *Bubbor Paddas* are presented in Table 1.

### Table 1.

<table>
<thead>
<tr>
<th>No</th>
<th>Tools</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><em>Tungku</em></td>
<td>A cooking utensil used as a combustion to heat something that usually uses wood fuel.</td>
</tr>
<tr>
<td>2</td>
<td><em>Periuk</em></td>
<td>A cooking utensil made of metal with a lid. Usually for cooking rice.</td>
</tr>
<tr>
<td>3</td>
<td><em>Kuali</em></td>
<td>A cooking utensil made of metal without a lid. Usually for cooking vegetables or other side dishes.</td>
</tr>
<tr>
<td>4</td>
<td><em>Spatula</em></td>
<td>A cooking utensil used to stir when cooking made of wood or metal.</td>
</tr>
<tr>
<td>5</td>
<td><em>Ulekan</em></td>
<td>A cooking utensil made of stone or clay to refine spices.</td>
</tr>
<tr>
<td>6</td>
<td><em>Pisau</em></td>
<td>A cooking utensil made of metal for cutting or slicing vegetables and meat.</td>
</tr>
<tr>
<td>7</td>
<td><em>Baskom</em></td>
<td>A cooking utensil made of plastic or wood or metal to temporarily store vegetables and other food ingredients.</td>
</tr>
<tr>
<td>8</td>
<td><em>Talenan</em></td>
<td>A cooking utensil made of wood or plastic for mats when cutting vegetables and other food ingredients.</td>
</tr>
</tbody>
</table>

Cooking utensils will likely differ from one another. For example, *tungku* or stove may have been replaced by gas stoves. Stoves are usually still found in rural areas that use wood as fuel. *Ulekan* is also likely to have been replaced by a blender to grind the spices. A picture of the equipment for making *Bubbor Paddas* is presented in Figure 1.
The ingredients used in making *Bubbor Paddas* are plants with various species. Parts of the plants used include stems, leaves, rhizomes, tubers and seeds. There are 25 plant species and one animal species. The 25 plant species belong to the clade or class eudicots, monocots, magnoliids, and polypodiopsida. The animal used is anchovy which comes from the class Actinopterygii. The parts used in anchovies are all dried anchovy bodies. The species used in making *Bubbor Paddas* are presented in Table 2.

### Table 2.
Species used in making *Bubbor Paddas*

<table>
<thead>
<tr>
<th>No</th>
<th>Local Name</th>
<th>Species</th>
<th>Genus</th>
<th>Family</th>
<th>Order</th>
<th>Clade/Class*</th>
<th>Parts used</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Beras (Padi)</td>
<td><em>Oryza sativa</em> L.</td>
<td><em>Oryza</em></td>
<td>Poaceae</td>
<td>Poales</td>
<td>Monocots</td>
<td>Seed</td>
</tr>
<tr>
<td>2</td>
<td>Sawi</td>
<td><em>Brassica rapa</em> L.</td>
<td><em>Brassica</em></td>
<td>Brassicaceae</td>
<td></td>
<td>Eudicots</td>
<td>Leaf</td>
</tr>
<tr>
<td>3</td>
<td>Wortel</td>
<td><em>Daucus carota</em> L.</td>
<td><em>Daucus</em></td>
<td>Apiaceae</td>
<td>Apiales</td>
<td>Eudicots</td>
<td>Tuber</td>
</tr>
<tr>
<td>4</td>
<td>Pakis*</td>
<td><em>Diplazium esculentum</em> (Retz.) Sw.</td>
<td><em>Diplazium</em></td>
<td>Athyriaceae</td>
<td></td>
<td>Polyplodiopsida</td>
<td>Leaf</td>
</tr>
<tr>
<td>5</td>
<td>Kecombrang</td>
<td><em>Etlingera elatior</em> (Jack) RMSM.</td>
<td><em>Etlingera</em></td>
<td>Zingiberaceae</td>
<td></td>
<td>Zingiberales</td>
<td>Monocots</td>
</tr>
<tr>
<td>6</td>
<td>Rebung bambu</td>
<td><em>Bambusa vulgaris</em> mantan</td>
<td><em>Bambusa</em></td>
<td>Poaceae</td>
<td>Poales</td>
<td>Monocots</td>
<td>Stem (young)</td>
</tr>
<tr>
<td>7</td>
<td>Kacang panjang</td>
<td><em>Vigna unguiculata</em> (L.) Walp.</td>
<td><em>Vigna</em></td>
<td>Fabaceae</td>
<td>Fabales</td>
<td>Eudicots</td>
<td>Fruit and seed</td>
</tr>
<tr>
<td>8</td>
<td>Salam</td>
<td><em>Syzygium polyanthum</em> (Wight) Walp.</td>
<td><em>Syzygium</em></td>
<td>Myrtaceae</td>
<td>Myrtales</td>
<td>Eudicots</td>
<td>Leaf</td>
</tr>
<tr>
<td>9</td>
<td>Kesum</td>
<td><em>Persicaria odorata</em> Sojak</td>
<td><em>Persicaria</em></td>
<td>Polygonaceae</td>
<td></td>
<td>Caryophyllales</td>
<td>Leaf</td>
</tr>
<tr>
<td>10</td>
<td>Tauge kacang</td>
<td><em>Vigna radiata</em> (L.) R. Wilczek</td>
<td><em>Vigna</em></td>
<td>Fabaceae</td>
<td>Fabales</td>
<td>Eudicots</td>
<td>Sprouts</td>
</tr>
<tr>
<td>11</td>
<td>hijau</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Jinten</td>
<td><em>Zingiber officinale</em> Roscoe</td>
<td><em>Zingiber</em></td>
<td>Zingiberaceae</td>
<td></td>
<td>Zingiberales</td>
<td>Monocots</td>
</tr>
<tr>
<td>13</td>
<td>hitam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Rhizome</td>
</tr>
<tr>
<td>14</td>
<td>Kacang tanah</td>
<td><em>Arachis hypogaea</em> L. Rosco.</td>
<td><em>Arachis</em></td>
<td>Fabaceae</td>
<td>Fabales</td>
<td>Eudicots</td>
<td>Seed</td>
</tr>
<tr>
<td>15</td>
<td>Kunyit</td>
<td><em>Curcuma longa</em> L. Wild.</td>
<td><em>Curcuma</em></td>
<td>Zingiberaceae</td>
<td></td>
<td>Zingiberales</td>
<td>Leaf and Rhizome</td>
</tr>
<tr>
<td>16</td>
<td>Lengkuas</td>
<td><em>Alpinia galanga</em> (L.) Wil.</td>
<td><em>Alpinia</em></td>
<td>Zingiberaceae</td>
<td></td>
<td>Zingiberales</td>
<td>Rhizome</td>
</tr>
<tr>
<td>17</td>
<td>Ketumbar</td>
<td><em>Coriandrum sativum</em> L.</td>
<td><em>Coriandr um</em></td>
<td>Apiaecae</td>
<td>Apiales</td>
<td>Eudicots</td>
<td>Seed</td>
</tr>
<tr>
<td>18</td>
<td>Serai</td>
<td><em>Nigella sativa</em> L.</td>
<td><em>Nigella</em></td>
<td>Ranunculaceae</td>
<td></td>
<td>Ranunculales</td>
<td>Eudicots</td>
</tr>
<tr>
<td>19</td>
<td>Kemiri</td>
<td><em>Cymbopogon citratus</em> (DC.) Staf.</td>
<td><em>Cymbopo gon</em></td>
<td>Poaceae</td>
<td>Poales</td>
<td>Monocots</td>
<td>Stem</td>
</tr>
<tr>
<td>20</td>
<td>Cabai</td>
<td><em>Piper nigrum</em> L.</td>
<td><em>Piper</em></td>
<td>Piperaecae</td>
<td>Pipersales</td>
<td>Magnoloids</td>
<td>Seed</td>
</tr>
<tr>
<td>21</td>
<td>ruk nipsis</td>
<td><em>Capsicum frutescens</em> L.</td>
<td><em>Capsicum</em></td>
<td>Solanaceae</td>
<td>Solanale s</td>
<td>Eudicots</td>
<td>Fruit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Biology Learning about biodiversity from *Bubbor Paddas* is the utilization of the direct value of biodiversity in the form of organisms for food needs. Students can learn plant diversity and plant grouping based on clade or class, such as eudicots, monocots, magnoliids, and polypodiopsida. Students also learn the use of animals, even though only one animal is used, namely anchovies. Students learned that without this species, *Bubbor Paddas* could not be made. Although simple, students can be encouraged to predict some species that may be endangered due to the younger generation’s lack of concern for species utilization. The plant species used can be seen in Figure 2.

Students can also learn about the content of vegetables used for health. Species in the making of *Bubbor Paddas* are not endangered but are being preserved to prevent extinction. For example, kesum leaves are already difficult to find in some places because people do not preserve them. Students can also learn about the benefits of some of the plants used to make *Bubbor Paddas*. A distinctive feature of *Bubbor Paddas* is the presence of kesum leaves. *Kesum* leaf is a plant originating from Southeast Asia that has small elongated leaves, has a distinctive aroma and has a spicy taste (Oktavianawati, 2018).
The making of *Bubbor Paddas* includes three stages, namely preparation, cooking, and serving. The preparation stage involves washing and soaking the rice and preparing the seasoning for *Bubbor Paddas*. Rice is washed with plain water and soaked for 20-30 minutes. Spices such as onion and garlic are sliced using a knife. Other spices such as candlenut, pepper, cumin, coriander, galangal and others are mashed using a *cobek* and *ulekan*. Nowadays, you can use a blender. In addition, vegetable ingredients such as mustard greens, carrots, bamboo shoots, long beans, corn, *kesum* leaves, and *pakis* plants are cleaned and cut into pieces.

The cooking stage, which is cooking the soaked rice by roasting (fry without oil), so that it is browned and then coarsely ground. The coarsely pounded rice is cooked in a pot on a stove. While the rice is cooking, the coconut is grated and roasted (fry without oil) using a *kuali* until it releases oil. After that, we stir-fry the spices that have been mashed in the preparation stage using a *periuk* or wok. The sautéed spices are then put into the pot to cook the rice for about 2 to 5 minutes. Next, the cut vegetables are also put into the pot with the cooked rice.

The presentation stage involves serving the cooked *Bubbor Paddas* with various garnishes. Garnishes can include anchovies, peanuts, chili slices and lime wedges. The garnishes can be customised according to the maker’s preference. The process of making *Bubbor Paddas* is presented in Figure 3.

![Figure 3](https://example.com/figure3.png)

**Figure 3.** The process of making *Bubbor Paddas*. (A) cooking the rice; (B) roasting (fry without oil) the coconut; (C) sautéing the spices; (D) mixing the sautéed spices into the cooked rice into porridge; (E) putting the cut vegetables into the cooked rice; and (F) *Bubbor Paddas* with garnishes.

The results of the *Bubbor Paddas* research were made into an educational video to teach. The methodology employed for the production of the video was derived from Buchner (2018). The steps involved in the creation of a learning video include the following: 1) Setting the objectives or desired outcomes; 2) Collecting relevant materials or content; and 3) Creating a storyboard to outline the video. The learning objective was to gain an understanding of the diversity of plants and animals used in *Bubbor Paddas*. The content or materials collected from the research were aligned with biodiversity materials (western science). The developed storyboard includes the introduction, which covers the title and learning objectives; the content of the video, which covers the ethnobiological study of *Bubbor Paddas*; and the closing, which covers the conclusion of the video.

The educational video is entitled “Spicy Porridge as Biodiversity Learning.” The video was uploaded via YouTube with the link [https://youtu.be/BAmjQCrwOOU](https://youtu.be/BAmjQCrwOOU). The video is in Bahasa Indonesia because it was designed to meet the needs of Indonesian audiences. The video is 7 minutes, 46 seconds long and consists of three main parts, namely the opening, video content, and closing. The opening of the video contains a brief explanation of *Bubbor Paddas*; the content of the video is an ethnobiological research study on *Bubbor Paddas*; and the closing of the video is a bibliography and video documentation. Screenshots of the video are presented in Figure 4.
The use of educational videos linked to YouTube media can improve vocabulary, including species names. Failure to understand vocabulary can hinder communication and discourage students from retaining information in their memory (Dávila et al., 2021). Based on Fiorella et al. (2020), students benefit most from viewing images from dynamically generated videos and then verbally explaining what they have learned. Educational videos provide an alternative to on-site learning in situations where it may not be possible (Adinugraha, 2022b). The video can also be made into a virtual field trip to increase biodiversity literacy (Oktaviana et al., 2022). The Bubbor Paddas educational video makes it unnecessary for students to directly visit the Bubbor Paddas maker and observe the process. However, this educational video can be used by students if they want to make Bubbor Paddas so that it can be better remembered in their memory.

Educational videos uploaded on YouTube were rated by respondents. There were 78 respondents who were students (5.13%), bachelor students (80.77%), teachers (3.85%), and others (10.26%). The age range was <=14 years (3.85%), 15 to 17 years (10.26%), 18 to 20 years (48.72%), 21 to 23 years (35.90%), and >=24 years (1.28%). The characteristics of the respondents are presented in Figure 5.

![Figure 4. Screenshots of the educational video on Bubbor Paddas. (A) the opening of the video; (B) the content of the video; and (C) the closing of the video.](image)

This assessment includes indicators of content and message, relevance, educational value, organization, grammar, delivery and narration, production and editing techniques, audio and sound, visuals and graphics, video quality and camera techniques, and creativity (SMM Conference, 2021). The maximum score given is 3. Based on the survey results for each indicator, the respondents’ assessment is in the range of 2.36 to 2.49. This means that the video has a good category because it meets the video assessment indicators with an average score above the score of 2 out of a maximum score of 3. Respondents' assessment of the video per indicator is presented in Figure 6.

![Figure 5. Characteristics of respondents. (A) by age range; (B) by occupation.](image)
Figure 6. Respondents’ assessment of each indicator

Based on the results of each individual’s score, each rated the overall video as excellent, good, satisfactory, or insufficient. A total of 30.77% stated that the video quality was excellent, and 55.13% stated that the video quality was good. A total of 69.23% strongly agreed that the Bubbor Paddas educational video provided new knowledge for the audience. This means that the Bubbor Paddas educational video is accepted by the video audience. The percentage of video assessment by each respondent is presented in Figure 7.

Figure 7. Respondents’ assessment of the video. (A) overall assessment; (B) usefulness assessment

The limitation in this study is that the video has not been used for biology learning only limited to the perception of the audience so that it cannot be known its effectiveness to increase understanding of biodiversity. In addition, the videos uploaded on YouTube have not been watched by many people so it is necessary to disseminate the videos in classroom learning. Therefore, it is necessary to design biology lessons that use indigenous knowledge-based educational video for learning. Teachers need to use an indigenous knowledge or local wisdom approach to design such learning knowledge and culture (Adinugraha, 2022a; Adinugraha et al., 2021).

Integrating local wisdom or indigenous knowledge with biology subjects through ethnobiological studies such as ethnobotany, ethnozoology, and ethnoecology has the potential to explore local wisdom and cultural approaches (Adinugraha, 2022a). Learning by providing local wisdom knowledge about the importance of species for traditional food making is expected to support students’ awareness of the importance of biodiversity values. Students’ awareness of the importance of biodiversity value is the first step to prevent biodiversity loss.

4. Conclusion

Educational videos require content, and Bubbor Paddas, as indigenous knowledge, has the potential to be used as content in the making of educational videos. The study of Bubbor Paddas using ethnobiological principles
can help to bridge the knowledge gap between indigenous knowledge and Western science related to the topic of biodiversity value. The making of Bubbor Paddas uses certain tools and manufacturing processes. There are 25 plant species and one animal species used in making Bubbor Paddas. The 25 plant species belong to the clade or class eudicots, monocots, magnoliids, and polypodiopsida. The animals used are anchovies from the class Actinopterygii. The educational video was uploaded via YouTube with the link https://youtu.be/BAmiQCrwOU and has a duration of 7 minutes, 46 seconds. Based on the survey results for each indicator, the respondents' assessment is in the range of 2.36 to 2.49. This means that the video has a good category because it fulfills the video assessment indicators with an average score above score 2 of the maximum score of 3. 30.77% stated that the video quality was excellent and 55.13% stated that the video quality was good. A total of 69.23% strongly agreed that the Bubbor Paddas educational video provided new knowledge for the audience. The Bubbor Paddas educational video is expected to be an alternative to fill the gap between indigenous knowledge and modern or western knowledge. The objective of this educational video is to provide an alternative means of overcoming the low level of knowledge regarding the value of biodiversity. It is anticipated that students will become more aware of the role of species in the preservation of culture and human consumption.

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6. Reference


