

## Enhancing Communication and Collaboration Skills in Social Studies and Life Skills Education Learning through Presentations

Dilli Bahadur Raut

Lecturer, Vishwa Adarsha College, Itahari, Sunsari

Email: [rautdilli38@gmail.com](mailto:rautdilli38@gmail.com)

ORCID: <https://orcid.org/0009-0003-1730-3286>

Sujeet Karki

Lecturer, Vishwa Adarsha College, Itahari, Sunsari

Email: [karkisujeet6244@gmail.com](mailto:karkisujeet6244@gmail.com)

ORCID: <https://orcid.org/0009-0007-6708-8552>

### Abstract

#### Article History

##### Submitted:

27 May 2025

##### Reviewed:

16 July 2025

##### Accepted:

29 July 2025

##### DOI:

<https://doi.org/10.3126/jovac.v2i1.83894>

##### QR Code:



##### Publisher

Research and  
Innovation Committee  
(RIC), Vishwa Adarsha  
College, Itahari,  
Sunsari, Koshi  
Province, Nepal  
Email:  
[ricjovac@gmail.com](mailto:ricjovac@gmail.com)  
URL: [vac.edu.np](http://vac.edu.np)

This study aims to explore secondary-level (Grade 11 and 12) students' experiences with oral presentation to develop their communication and collaboration skills in social studies and life skills education. Oral presentation is a teaching and learning approach where the learners are involved in delivering the content through discussion and presenting it interactively in the classroom. The purposive sampling technique was used to choose the participants following a narrative inquiry as the research methodology. Ten participants from Grade 11 were selected and involved in oral presentations and interviews to explore their experiences. The same participants continued oral presentations in grade 12 and participated in Focus Group Discussion (FGD) and interviews to unveil their experiences and perspectives on the roles of oral presentations to enhance communication and collaboration skills. The data collected through two rounds of semi-structured interviews and FGD were transcribed and coded, and categorized to generate four main themes: interaction for meaningful learning, harmonious understanding for contextual learning, synergy in connection and growth with creativity, and challenges in oral communication in group learning were generated. The major findings of the study revealed that oral presentation is useful to enhance the soft skills, especially communication and collaboration, of learners to promote lifelong learning. Social studies and life skills education need teachers to use multiple innovative pedagogical approaches for effective teaching and learning, which can foster knowledge, skills, attitudes, and values among the learners. This process prepares them as global, civilized, and democratic citizens in the future.

*Keywords:* Social studies, life skills education, oral presentation, communication skills, collaboration skills

### **Introduction**

Social studies is a core subject in school-level education (K-12) in many countries like the United States of America, the United Kingdom, Norway, Sweden, Nepal, Taiwan, India, Thailand, Ghana, Kenya, etc. (Bordoh et al., 2021; Herczog, 2010; Nanthawong, 2024; Ruto et al., 2023) to foster civic competencies and societal understanding of learners. It is an interdisciplinary subject integrating various social sciences, i.e., sociology, anthropology, civics, history, economy, geography, population education, etc. (Farisi, 2016; MoEST, 2019; Nystrom, 2019; Tauginiene et al., 2020). It promotes learners' independent thinking (Baildon & Damico, 2010) and develops knowledge and skills from real experiences through hands-on activities (Mangkhang et al., 2022). Social studies possess a wide scope and need to adopt transformative pedagogical approaches. It empowers learners to understand human beings as individuals and cohabitation in societies (Mangkhang et al., 2022) by fostering their collaboration, cooperation, communication, creative thinking, and critical thinking skills. The concept of life skills education has been introduced together with the social studies course in grades eleven and twelve in Nepal to nurture learners' soft skills.

The National Curriculum Framework of Nepal has included soft skills in the school-level curriculum for the holistic development of students (CDC, 2019). It includes life skills, occupational skills, collaborative skills, analytical skills, problem-solving skills, social and transcultural skills, and creative and innovative skills (Phinla, 2016), which are the backbone of teaching and learning social studies. Communication and collaboration are essential skills among the 21st-century abilities that must be mastered for success in work, life, and citizenship (Somphol et al., 2022). These skills are essential to all walks of life, and we need to communicate ideas, make decisions, analyze, and solve problems (Azubuike et al., 2015) to understand and respect the relationship between the environment and human beings. Communication and collaboration enhance efficient decision-making while discussing and analyzing social issues (Azubuike et al., 2015). Classroom learning should focus on developing these skills through multiple pedagogical approaches and learning activities. Thus, an oral presentation is an approach to social studies learning that provides the space for learners to create interest in social studies content as they explore and prepare presentations

based on their experiences and real-world context. It also enhances their knowledge and skills by supporting the common good and solving real-world issues.

The social studies subject in Nepal for long has been criticized for not preparing students for effective living in society due to the use of traditional teacher-centered teaching methods by limiting the learning within the four walls of the classroom (Shah, 2019, 2023). However, this is not appropriate to facilitate the diverse contents of social studies. According to Okpalmaa (2008), social studies learning is unable to actualize its expected goals of preparing students for worthy living in the absence of interactive and meaningful pedagogical approaches. Although soft skills are included in the school curriculum of Nepal (CDC, 2019), especially in social studies, its pedagogical practices rarely comprehend these skills in real life. Teachers' focus on rote memorization instead of involving students in individual and group oral presentations, project works, field visits, and community works (Shah, 2019; 2023). Without using innovative pedagogical approaches, this subject is unable to create curiosity and a long-term impact on the lives of learners.

Social studies needs adaptable, goal-oriented, innovative teaching methods that link the content to real-life issues and build soft skills like critical thinking, creativity, and collaboration (Aslamiah et al., 2021), but less discusses specific teaching approach. Although Mangkhang et al. (2022) explore the integration of art with technology in social studies learning, but rarely discuss the different pedagogical approaches for collaborative and meaningful learning. Mutiani et al. (2021) focus on the use of technological pedagogical content knowledge (TPACK) in teaching and learning of social studies, but discuss less on the involvement of learners. The art-based critical auto-ethnographic study of Shah (2023) shares cultural hegemony-like traditional teaching methods, rigid curriculum, and teacher-driven learning approaches and urges to inculcate students' critical voices and ethical professional practices. Thus, it is necessary to promote group work, peer teaching, and oral presentations to nurture students' curiosity, confidence, communication, and collaboration. This narrative study aims to incorporate oral presentation to foster communication and collaboration skills among students in social studies and life skills education. For the oral presentation, the teacher will generally assign the respective topics for the learners to plan and present in groups in the classroom. It also finds out how oral presentation becomes a common platform to

raise active participation among the learners by keeping them in the mainstream of learning. Thus, this study aims to address the research question: How does oral presentation develop and enhance learners' communication and collaboration skills in social studies and life skills education?

## **Literature Review**

### ***Social Studies and Life Skills Education***

According to the National Curriculum Framework of Nepal, social studies and life education skills education is a compulsory subject at the secondary level (Class 11 and 12) (CDC, 2019). It is a diverse subject integrating different social sciences with an aim to equip learners with knowledge, skills, attitudes, and democratic values to shape their character (Aslamiah et al., 2021). It imparts a scientific attitude and prepares learners to solve different social problems, which develops students' creative and innovative abilities (Mutiani et al., 2021). Life skills education aims to develop different soft skills, i.e., communication, collaboration, critical thinking, empathy, emotion management, etc. Life skills are part of the basic human development process and need to perform physical, cognitive, psychological, vocational, moral, and emotional tasks (Vranda & Rao, 2011) to prepare learners as responsible global citizens. Social studies and life skills education promote local wisdom (Jumriani et al., 2021) by creating indigenous knowledge through meaningful and contextual participation of learners. Life skills enable learners to deal effectively with everyday challenges, to learn and practice skills, and empower them to take more responsibility for their actions (Vranda & Rao, 2011). Social studies aims to develop the potential of students to be sensitive to the environment and other aspects of society (Jumriani et al., 2021), and life skills education focuses on developing all learners' potential and abilities (Tohani & Aulia, 2022) through planned, effective, and ICT-based learning in this rapidly changing environment. Thus, social studies and life skills education aim to develop global citizens who are socially, politically, and culturally aware. The pedagogical approaches of social studies and life skills education are participatory-based experiential learning (Vranda & Rao, 2011), which actively involve learners in the learning process. Oral presentation is one approach among many as it fosters learners' communication, collaboration, creative thinking, and critical thinking skills. It encourages learners to

explore knowledge in a collaborative approach (Aslamiah et al., 2021) to develop a clear understanding of the role of citizens in democratic societies, which is possible through learner-centered pedagogical approaches, i.e., oral presentation.

### ***Oral Presentation in Teaching and Learning***

The traditional methods like chalk-and-talk and lectures are being replaced by student-centered pedagogies, where students explore and explain content in the classroom. An oral presentation is a teaching style to engage students in a certain topic or project and for the presentation and discussion in the classroom (Hasanah et al., 2013). Oral presentations are akin to formal conversations, and addressing a group is a natural activity (Baker, 2000). Generally, the teachers assign any topics related to the course, or students can freely choose their content to present in front of the classroom. Most of the oral presentations can be made through a student-centric technique, which allows the learners to work independently or in a team to present their respective content in the social studies and life skills education classes. This can further improve their four language skills: listening, speaking, reading, and writing (Brooks & Wilson, 2015). Oral presentations seem significant for teachers facilitating social studies and life skills education courses to evoke the ideas, perspectives, and non-verbal cues of learners, allowing them to actively engage with the content alongside the teachers. This can further help learners come forward, actively participate, and take responsibility for their learning, which creates a sense of ownership for sustainable learning. The continuous feedback offered by teachers helps to improve their overall performance in their learning. Before the presentation, the teacher can give some instructions and norms to be followed as guidance for the presentation. During the classroom presentation, the teacher can take the necessary notes and observations so that they can provide feedback after the presentation to improve in the future. Oral presentation skills have also been found to be effective tools utilized to enhance students' capacity for communication by enabling them to collaborate in the undertaking of shared academic activities (Ahmad & Lidadun, 2017; Brooks & Wilson, 2015). Oral presentations allow learners to engage with material in an interactive, constructivist, and effective way (Hasanah et al., 2013). Moreover, the use of different active learning pedagogies like problem-based and cooperative learning has been proven to make oral presentations more effective in

fostering communication skills (Bailey et al., 2021). Thus, social studies teachers are urged to make oral presentations as a part of their pedagogy for the holistic development of learners.

### ***The Need for Communication Skills and Collaborative Learning***

The teaching and learning process has undergone a significant change in the present day due to the innovation in various teaching approaches, strategies, and technological advancements. Globalization and digitization in the 21st century have brought transformation in our daily lives, learning, interactions, and work (Pardede, 2020). The 21st-century skills are highly interwoven and remain a central concern for educators and learners. Soft skills support to inculcation of knowledge, skills, attitudes, and values by developing learners' capabilities in various areas like "technology, media and information, learning and innovation skills, and life and career skills" (Tohani & Aulia, 2022, p. 47). Communication proficiency is one of the criteria for learning in the 21st century (Ongardwanich et al., 2015), which transmit a message or information that incorporates mutual understanding across the settings in which it occurs (Saunders & Mill, 1999). Learners need to express their ideas and opinions with their teachers and colleagues in the school environment. Rao (2019) emphasizes the significance of effective and smooth communication for personal and professional success. It is vital for enhancing social skills and sensitivity, creating positive relationships among people, and breaking down cultural boundaries (Rubtsova, 2019). We developed the rubrics to evaluate students' oral presentations, including clarity of expression, voice modulation, eye contact, and audience awareness, which helps to provide constructive feedback to enhance their communication skills. Such practices are aware of their societal issues and encourage them to make the right choices to determine educational achievements in the 21st century (Fitriani et al., 2022). Moreover, communication abilities are indispensable for learning because they enable learners to articulate their findings and achieve successful learning outcomes (Supena et al., 2021) in the learning process.

One should learn to cultivate networking skills, maintain cooperation and connections with other people, and come up with decisions in the team, which are essential to achieving success in the contemporary age (Collins & Halverson, 2009). Collaboration is a process where members of a group share and express their ideas,

thoughts, and knowledge in addition to sharing their emotions and sentiments (Jarvenoja & Jarvela, 2009). Similarly, working on a group project entails logistics, like determining roles and responsibilities for team members, carrying out the tasks, the group procedure, and other aspects (Lee et al., 2015). In a collaborative learning environment, students listen to diverse opinions and ideas, present and defend their views, and face social and emotional challenges (Laal et al., 2012). In doing this, the learners can cope with the problems, and they can think independently by taking the support of the team, which generally happens while engaging in collaborative activities in social studies and life skills education learning. Collaborating among the learners can also foster active learning and increase their motivation (Mora et al., 2020). Collaborative learning can help learners to engage in the learning activities and strengthen their teamwork skills (Sulaiman & Shahrill, 2015), which is essential to coping with several real-life problems.

### ***Social Constructivism for Progressive Learning***

Teaching and learning in social studies and life skills education involve and engage learners in the entire learning process by promoting their prior knowledge. Social constructivism situates the learning activities of social studies in the context of learners (Taylor & Iroha, 2015) by engaging them in interaction with each other. Oral presentations with a constructive approach promote social interactions, life forms, language, and communication among learners, contents, contexts, and experiences (Schroeder, 2019), which are the basis for the formation of soft skills, especially communication and collaboration. This theory helps to integrate the social context, learning environment, course content, and teachers' experiences (Duru et al., 2020) in learning. It focuses on the collaborative nature of learning (Su & Zou, 2022), where the learner develops knowledge from how they interact with each other, their culture, and society at large. It promotes learners to construct knowledge from social interaction and enhances soft skills, i.e., social inquiry skills, empathy, communication, collaboration, critical thinking, and creative thinking (Taylor et al., 2014). According to Illeris and Ryan (2020), constructivism focuses on the continuous process of learning by engaging in and contributing to the practices in communities of learning.

### **Narrative Inquiry as a Research Methodology**

Narrative inquiry is a research methodology that transforms human experiences into an understandable and accessible narrative of a specific human action or event (Chand, 2024). It concentrates on examining an individual, gathering information through tales, documenting personal experiences, and exploring and analyzing the significance of those experiences in the form of an ordered narrative (Creswell & Creswell, 2018). According to Guillemin and Gillam (2004), narrative inquiry involves reflexivity, an active, continuous activity that infuses every investigation phase throughout the research process. It helps to understand and experience the students' reality rather than simply attempting to explain or anticipate their world (Wang & Geale, 2015) by exploring their opinions and experiences on oral presentations in social studies and life skills education.

### **Context of the Study and Participants**

The study was conducted in a secondary-level school located in the urban city of Koshi Province, Nepal. The researchers used purposive sampling to select the participants for the study, which allowed them to choose participants who had similar sorts of experiences and insights and could be relevant to our research questions. The sample consisted of ten secondary-level (Grade 11 and 12) learners, out of whom six were boys and four were girls. They were given the pseudonyms differently to protect their identities. The second author facilitates their social studies and life skills education course in Grade 11 and the first facilitates their same course in Grade 12. The researchers' role deepened their contextual understanding and shaped narrative interpretation. They encouraged participants to share experiences from oral presentations in social studies and life skills education courses at Grades 11 and 12.

### **Data Collection Tools and Procedures**

The data were gathered through two interview rounds via the free version Zoom platform and a focus group discussion (FGD). At first, the researchers developed a rapport with the learners, informed them about the purpose of carrying out the research study at the beginning of each grade, and obtained consent from them. The second author conducted the first round of semi-structured interviews with them in Grade 11, and the first author conducted the second round of semi-structured interviews with them



in Grade 12. The interview guidelines were prepared after a thorough discussion between both researchers and were sent to each participant before the actual session through email. The interviews lasted for twenty-five to thirty minutes for each participant on the Zoom platform and were moderated equally by the first and second authors. Similarly, conducting the interviews via the Zoom platform ensured accessibility and supports the participants to attend from their locations and feel free to answer based on their experiences according to interview guidelines. FGD was conducted physically and encouraged participants to share, discuss, and reflect on their ideas, opinions, and experiences. The first author led the discussion, and the second author took notes of the responses from the participants. Together, these methods allowed drawing a rich exploration of the participants' lived experiences, creating a reflective discussion of how they felt after engaging in the oral presentation in social studies and life skills education in both Grades 11 and 12. Both researchers thoroughly discussed and shared their understanding and reach on the common consensus throughout the data generation process. They obtained informed consent from all the participants and ensured the confidentiality of the responses through anonymity.

### **Data Analysis and Interpretation**

Both authors listened to the audio recordings of interviews and focus group discussions carefully and transcribed the data. All transcribed data were coded and categorized based on their similarities. The authors discussed and engaged thoroughly in the process of conceptualization of the research agenda, data analysis, interpretation, and revision of the manuscripts. Themes were developed and presented based on the participants' experiences. Four themes: meaningful interaction for sustainable learning, harmonious understanding for contextual learning, synergy in connection and growth with creativity, and challenges in oral communication in group learning were generated from the data. The succeeding paragraphs present learners' opinions and experiences with the enhancement of communication and collaboration skills through oral presentations in social studies and life skills education.

### **Interaction for Meaningful Learning**

Interaction is the key to constructing knowledge in the learning process. Learners interact with context, content, friends, and teachers to make their understanding and meaning in learning, especially through oral presentation. Oral

presentation promotes interaction among friends in particularly content and concepts that make learning comfortable and purposeful. Learners work together with friends while preparing for oral presentations, which makes the learning of social studies and life skills education more meaningful. In the interview, Abhimanyu said:

Oral presentation is the process of learning a subject like social studies in an effective way. With the help of oral presentations, presenters boost their knowledge by researching the topics, and they will also develop better communication skills to sustain their lives.

The experience of the learner reflected that oral presentation is a useful process, not a product, to learn the integrated contents of social studies and life skills education. It promotes inquiry-based learning, which involves learners searching and finding out the content and its relevance in their context. This process enhances learners' research and communication skills, which are the main purpose of social studies (CDC, 2019), and it develops a sense of ownership among learners. Bibek further shared that:

Oral group presentations are valuable in learning social studies and life skills education. They enhance teamwork, communication, and critical thinking. By sharing ideas and collaborating with friends, we gain confidence and learn to respect others' perspectives. Presentations also improve public speaking and problem-solving skills, preparing students for real-world interactions and responsibilities.

Oral presentation in social studies and life skills education inculcates knowledge, skills, and values in the learners. The objective of this subject is to make learners civilized, capable, and democratic citizens with different hard and soft skills required to survive as global citizens (CDC, 2019), and oral presentation develops their skills to work in groups. The group members share the ideas to construct the knowledge collaboratively through peer interdependence, negotiation, and role distribution. The oral presentation develops the learning communities which encourage students to communicate, rationalize, and provide arguments to defend their ideas (Shah, 2019) by posing questions and participating in democratic discussions. It fosters the communication skills of students as listening, organizing ideas, and responding to peers. Interaction among friends enhances their pace of learning by making them accurate and faster and producing more ideas, which makes learning more effective (Hurst et al.,

2013). Sharing one's ideas among friends, listening to other opinions, and providing feedback on their presentation develop the critical thinking skills of learners gradually. Active engagement helps to create “a positive classroom environment and establish a community of learners who support each other” (Bromley, 2008, p. 111). Oral presentations promote inclusive and dialogic learning where students actively construct knowledge by sharing and discussing ideas. The learners construct knowledge during examining and analyzing tasks (Amineh & Asl, 2015) performed by their friends through oral presentations, as it creates an opportunity for a group learning environment. Omita said:

Oral group presentations help us to exchange ideas. Every individual has different views and ideas on one specific topic. When we are assigned a group project, it helps exchange our ideas and views with one another. We will be bound to think of new ideas and ways to present our topic.

The oral presentation develops multiple perspectives among learners by engaging them in exchanging ideas and thoughts on different subject matters of social studies and life skills education. While preparing oral presentations in groups, students share existing ideas with friends and generate new ideas on the subject matter to make the presentation better. In social studies and life skills education, learning with others is more effective than learning on their own (Hurst et al., 2013), as the subject matter is diverse and dynamic. The integrated content of this subject shows knowledge forms through social interaction. Social constructivism supports oral presentations as they promote idea-sharing and meaningful learning through peer engagement (Kim, 2001), which develops ownership in the learning process.

Social studies prepare the learners to act for positive changes in society and the nation, which is possible when each learner connects classroom learning to real-life practices through effective communication. Neha said:

While preparing for the oral presentation, we discussed the topic with family members. They also felt quite honoured and shared their knowledge with us, and asked us to add some from our side. It develops interaction among family members and learns from their lived experiences in society.

The contents of social studies and life skills education are directly linked to the family and society as they depict the social happenings in real time. Students generate knowledge by discussing with family members on different topics of social studies.

Such interactions promote local wisdom, which becomes a guide for the community (Jumriani et. al., 2021) as family and community members contribute to the creation of knowledge. Social interaction is useful for improving social skills through social relationships (Indriyani et. al., 2021), which foster meaningful interaction and effective communication. During FGD, participants revealed that oral presentations in social studies and life skills education develop a good bond among the team members and classmates. It supports learning through self-exploration and group sharing as they discuss the area of interest and available resources while distributing tasks among members. Collaborative methods for oral presentations improve students' self-motivation and self-realization (Ahl, 2006) by improving their language skills and giving them different points of view, which leads to good academic results.

### **Harmonious Understanding of Contextual Learning**

There is a great necessity for contextualized learning in today's interconnected world. Social studies and life skills education have become integrated courses where the curriculum needs to amalgamate varied local cultures, histories, and contents to create meaningful and engaging content for the learners. Classroom learnings need to support students' deeper understanding by nurturing interpersonal and empathetic skills (Smeenck et al., 2019). The sense of empathy and responsibility integrated into the social studies and life skills education curriculum can encourage the learners to consider their diverse perspectives and recognize the impacts of their actions on others. It is necessary to develop empathetic understanding during the classroom oral presentation as learners consider the diverse perspectives and opinions of their colleagues. Anjana shared:

I think oral group presentation is effective in building coordination, cooperation, and empathetic feelings in the group. It encourages each member to explore their topics for long-term learning.

Omita disclosed her opinions about the role of harmonious learning during the oral presentation, which can help to establish a rapport with each other. She said:

Oral presentations are important in social studies and life skills education because they help us practice speaking clearly and confidently. They also teach us how to share our ideas with others and listen to different opinions. This helps improve our communication, teamwork, and understanding of what we're learning.

The exchanging of ideas, views, and perceptions regarding the subject matter among the teams during the oral presentation fosters mutual support and relationships with the team members. Using those diverse views and thoughts can help them come up with fresh ideas, feel like they are part of the group and learn more about each other. Similarly, Neha reflected on her ideas, sharing how these social studies and life skills education courses help to develop personal careers and provide better ways to blend them into real-world situations. She illustrated:

I believe social studies and life skills education play a significant role in shaping our lives and providing us with a better perspective of life. It helps us pave a roadmap for achieving our goals.

The oral presentation is a means to develop multiple perspectives and views on the different contents of social studies and life skills education. It enhances their level of understanding and skills to work in the group throughout the presentation. Ajay added that;

During oral presentations in a classroom environment, learning and teaching are easier, which develops many skills such as talking in groups, creating different ideas, describing one's own opinion to others, and acknowledging people's feedback on the presentation. Talking in front of class enhances our collaboration and communication skills.

While preparing for the oral presentation, learners actively listen to other views, which develop their empathic understanding. Presenting their ideas in the classroom boosts their self-confidence, and participants' feedback enriches their knowledge, skills, and values on the learning process of social studies and life skills education.

The focus group discussion revealed that participants drew on real-life learning from a research-based setting to formulate their thoughts and reflect on what they had learned in social studies. Students can learn from each other, which can evoke their inner voices and feelings (self-disclosure) while preparing the oral presentation. It also demonstrated that the learners learn on their own through engagement, and they tried to get support from their colleagues, too. Moreover, there was the development of empathetic understanding with the co-learners during the process. The discussion revealed that the learners could assign the topics to each other after their group division. Similarly, they shared their work and suggested that their co-learners improve in the

respective areas in which they were involved. Moreover, they understand the complexities of their colleagues and work accordingly. They tried to give relevant life examples and applied them practically while discussing with their colleagues. Thus, they would promote their mutual understanding based on the real-life context.

### **Synergy in Connection and Growth through Creativity**

Cooperation and collaboration are essential skills for every human for survival, which need to be nurtured from school days. As social studies and life skills education aim to prepare responsible and conscious citizens who preserve the nation and nationality by practicing human values and democratic culture (CDC, 2019), learners need to work in the groups to enhance their collaborative skills. The oral presentation encourages learners to care and share among their friends/co-learners in a specific subject matter. While preparing for an oral presentation, learners work together and try to assimilate others' pain and pleasure. Nayan shared:

Basically, teamwork presentations surely help in learning activities. It helps each and every one to coordinate with each other. During the process of making a presentation, many of the members help each other; by doing so, one can learn a lot and another can develop teaching skills too. All the members engage in the preparation of their related presentation topic; it helps them to study more and prepare a lot.

The oral presentation encourages a group learning culture by motivating learners to help each other while accomplishing group tasks by developing the attitude of helpfulness and empathy. Learners engage actively to explore more on individual topics on one side, which automatically contributes to the group presentation as a whole. To make group presentations well, members put in additional efforts to prepare presentations in creative ways by creating conducive learning environments (Suardika et al., 2023) and using digital supports before and during presentations. In such a process of preparation for oral presentation, learners form new knowledge of social studies and life skills education based on their previous knowledge (Jancic & Hus, 2019). Its subject matter is rooted in society, and pedagogical approaches should explore the prior knowledge of students. According to Doolittle and Hicks (2003), knowledge is constructed through active cognition of learners, in which learners need to be involved

in exploration and presentations of content by using technology and group sharing. The use of oral presentations and the incorporation of technology in learning in social studies and life skills education contribute a lot to developing their collaborative skills.

Abhimanyu said:

When I was in grade 11, I hardly used my mobile phone to talk with my friends or family members, but while doing oral presentations, we needed to be in contact with all our group members, which helped to enhance my collaboration skills.

Oral presentations not only enhance learners' understanding of the content knowledge but also foster their social skills and digital literacy. Oral presentation through PowerPoint slides optimizes students' potential and motivates them to learn (Tohani & Aulia, 2022). The discussion with co-learners enhances their knowledge, communication and collaboration skills, attitude, and values, which are the focus of modern education. Anjana further shared that:

Classroom oral presentations help us to be more sociable, not only in our class but also in our social groups. It unites a group with a common goal (i.e., to make one's presentation the best); this ultimately encourages team members to collaborate.

Oral presentations became a means to develop learners' social skills as they focused on the common goal of making their presentation successful through the united efforts of all group members. They engage in communicating different ideas and seeking feedback from friends, which improves their communication and collaboration skills. It motivates them to work in groups together effectively by demonstrating mutual respect to each other (Aslamiah et al., 2021). Sharing in a group before the presentation and feedback from participants during the presentation develops new insight in learners. Chandra added that:

During a classroom presentation in social studies, I experienced a significant enhancement of my collaborative skills. On the topic of "Human Civilization," everyone gives their kind of answer, but in the evening, we all members of the group come online and search the topic and find more information about it. In this way, our collaborative skills are being developed through oral presentations.

Oral presentation challenges the understanding and perspective of learners in social studies and life skills education by encouraging them to use digital platforms to explore the content and discuss it. In this age of technological advancement, the teaching and learning process has brought drastic changes with innovative methods to engage students in creative learning activities. The use of digital platforms and face-to-face approaches increases students' activity in the learning process (Martanto et al., 2021). Due to digitalization and technological advancements in the education sector, most educators and learners have turned to online teaching and learning approaches. The use of technology enhances their digital literacy and creativity during the oral presentation. They develop their self-confidence and prepare themselves to face future challenges by engaging themselves in hands-on activities (Raut & Pant, 2024), i.e., exploring the contents from different sources, discussing with family members and co-learners, and designing visually attractive slides for the presentation of social studies and life skills education.

### **Challenges in Oral Communication in Group Learning**

Organizing the oral presentation helps to provide several advantages to the learners. However, it also has certain challenges for those, whether they are doing it individually or in groups (Mardiningrum & Ramadhani, 2022). During the oral presentation, the learners are not actively taking part in dividing their roles and responsibilities, which creates difficulty in completing the task on time. This can be revealed in the narratives of Bibek:

One challenge during social studies presentations is dividing tasks fairly. During one presentation, some team members did not do their part, and others had to take extra work, but we talked it out and adjusted the tasks.

Though oral presentations develop collaboration among learners, it seems hard to distribute the contents among members fairly, as all learners have diverse interests in learning. However, their meaningful interaction and communication encourage all to prepare and present at the end. Nayan added:

During the preparation, there arise many sorts of problems. There arises an unequal distribution of presentation topics. Many of the students do not want to participate in the preparation of the presentation, which creates one of the challenges for the group in making effective decisions. If a member does not participate during the presentation, then a group leader needs to make an effective decision, like who would do the presentation for the missing student.



This also highlighted the difficulty of planning properly before the presentation. The lack of adequate preparation and practice can also be a challenging factor for the learners, hampering the oral presentation (Benraghda et al., 2018). The team members can even feel great difficulty in presenting their content if any one of their member's remains absent on the very day. Similarly, a lack of seriousness and sometimes facing technical difficulties equally are the additional challenges while preparing the presentation contents. To support this, Anjana illustrated:

Sometimes, there are technical problems. When I was working on my presentation, there was a power supply cutoff, because of which I did not have any access to talk with my team. In addition, sometimes team members may not be serious about the presentation, which brings barriers to collaboration.

In the context of least developed countries like Nepal, technical availability, i.e., digital equipment, electricity supplies, and durable internet services, is one of the challenges faced by learners during the preparation for oral presentations. However, the arrangement of backup support of the electricity supply, such as the provision of a generator in the research site, reduces the technical hindrances during the time of oral presentation. Moreover, the stress, nervousness, time management skills and ensuring the active participation of colleagues in doing the oral presentation count much and remain difficult for the learners. The study of Tian and Mahmud (2018) is concerned with anxiety or nervousness as a common problem that learners face during their oral presentations. The narratives of Priti revealed this in the following:

Challenges that arise during this subject presentation may include issues such as unequal participation within the group, difficulties in managing time effectively, overcoming stages of anxiety, or ensuring that all group members contribute meaningfully to the presentation.

Participants experienced some of the difficulties, like time management, ensuring meaningful contributions from the team members, unequal participation, and stage anxiety for oral presentations.

Through the focused group discussion with the participants, they also revealed that there was no timely response from their colleagues during the preparation of their content and slides, resulting in one-sided communication. Similarly, the unequal efforts from particular team members have become evident, which seems to be quite

challenging for the other team members to work on the presentation. During the slide preparation, the content was repeated multiple times, which created difficulty in skipping some other important content. Furthermore, despite dividing the teamwork and clarifying content distribution and the sequence of the oral presentation, student absences during the presentation added more to the challenges.

### **Conclusions and Implications**

The purpose of this study was to explore the role of oral presentation in enhancing communication and collaboration skills in social studies and life skills education. Based on the above discussions, oral presentation plays a dominant role in building communication and collaborative skills among secondary-level learners in the classroom. It promotes self-learning and group learning in social studies and life skills education, which are essential approaches for diverse and integrated content. For oral presentation, each group distributes the tasks among the members by discussing the various subtopics, and each member is allowed to choose according to their interest and available resources. During the PowerPoint presentations, each member shared their understanding with other member and took feedback from them. Such sharing of opinions and understanding, and feedbacks from co-learners create a strong academic bond among team members. Learning in groups and presenting the contents in front of all classmates in the classroom develops their communication skills, collaboration skills, empathy, and self-confidence.

The diverse and dynamic subject matter of social studies and life skills education urges learners to be involved actively in the learning process, which is possible by using multiple progressive pedagogical approaches instead of traditional pedagogies. The multiple perspectives of learners increase self- and others' understanding levels by developing soft skills that equip them as global citizens. Healthy interaction among learners and contribution to group work is the best way to construct knowledge in social studies and life skills education. It promotes context-based learning in which learners present their ideas and opinions based on lived experiences throughout the oral presentation. Learners' engagement in designing and preparing the contents for oral presentation enhances their innovation and creativity, which are the bases for lifelong learning. Though oral presentation is very useful to develop soft skills, i.e.,

communication and collaboration in social studies and life skills education, there are a few hindrances. In Grade 11, learners find it quite difficult to prepare presentation content due to a lack of exposure and resources. However, they became habitual and assimilated oral presentation as an approach to learning the different subject matters of social studies and life skills education. This subject needs more innovative pedagogical approaches and practices in the classroom to develop learners' knowledge, skills, attitudes, and values to make them civilized and democratic global citizens. Future studies should focus on the role of various innovative approaches and strategies that can be used to enhance the effectiveness of oral presentations while facilitating the social studies and life skills education course. This can add to the value of integrating oral presentations and examining their efficiency in the classroom environment for the overall achievement of the learners.

### **Conflict of Interest**

The authors declare no potential conflicts of interest concerning the research, authorship, and publication of this article.

### **Corresponding Author**

Dilli Bahadur Raut

Email: rautdilli38@gmail.com

### **References**

- Ahl, H. (2006). Motivation in adult education: a problem solver or a euphemism for direction and control? *International journal of lifelong education*, 25(4), 385-405. <https://doi.org/10.1080/02601370600772384>
- Ahmad, N. A., & Lidadun, B. P. (2017). Enhancing oral presentation skills through video presentation. *PEOPLE: International Journal of Social Sciences*, 3(2), 385-397. <https://dx.doi.org/10.20319/pijss.2017.32.385397>
- Amineh, R. J., & Asl, H. D. (2015). Review of constructivism and social constructivism. *Journal of social sciences, literature and languages*, 1(1), 9-16. [https://www.blue-p.com/J/List/4/iss/volume%2001%20\(2015\)/issue%2001/2.pdf](https://www.blue-p.com/J/List/4/iss/volume%2001%20(2015)/issue%2001/2.pdf)
- Aslamiah, A., Abbas, E. W., & Mutiani, M. (2021). 21st-Century skills and social studies education. *The Innovation of Social Studies Journal*, 2(2), 82-92. <https://doi.org/10.20527/>

- Azubuikwe, Oyibe Ogene, David, Sunday Edinyang & Veronica N., Effiong (2015). *Self-directed learning strategy: A tool for promoting critical thinking and problem-solving skills among social studies students*. Ebonyi State University, Abakaliki, Nigeria & University of Cross River State. 52-58.
- Baildon, M., & Damico, J. S. (2010). *Social studies as new literacies in a global society: Relational cosmopolitanism in the classroom* (Vol. 46). Routledge.
- Bailey, D., Almusharraf, N., & Hatcher, R. (2021). Finding satisfaction: intrinsic motivation for synchronous and asynchronous communication in the online language learning context. *Education and Information Technologies*, 26(3), 2563-2583. <https://doi.org/10.1007/s10639-020-10369-z>
- Baker, A. (2000). *Improve your communication skill*. Kogan Page.
- Benraghda, A., Radzuan, N. R. M., & Ali, Z. (2018). Technical oral presentation delivery: Qualitative analysis of engineering undergraduates' impediments to effective oral presentations in an engineering context. *Library Philosophy and Practice*, 1. <https://core.ac.uk/download/pdf/188140227.pdf>
- Bordoh, A., Nyantakyi, F., Otoo, A. K., Boakyewa, A., Owusu-Ansah, P., & Eshun, I. (2021). Effective teaching of Social Studies concepts in basic schools in Ghana. *Universal Journal of Social Sciences and Humanities*, 1(1), 46-53. <https://doi.org/10.31586/ujssh.2021.095>
- Bromley, K. (2008). *Actively engaging middle school students with words*. In K.A. Hinchman & H.K. Sheridan-Thomas (Eds.), *Best practices in adolescent literacy instruction* (pp. 99-113). Guilford Press.
- Brooks, G., & Wilson, J. (2015). Using oral presentations to improve students' English language skills. *Kwansei Gakuin University Humanities Review*, 19, 199-212. <https://kwansei.repo.nii.ac.jp/record/22948/files/19-14.pdf>
- Chand, G. B. (2024). Narrative Inquiry: A critical examination of its theoretical foundations and methodological applications. *Far Western Review*, 2(1), 135-152. <https://doi.org/10.3126/fwr.v2i1.70514>
- Collins, A., & Halverson, R. (2009). *Rethinking education in the age of technology: The digital revolution and schooling in America*. Teachers College Press.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE.

- Curriculum Development Centre (CDC) (2019). National Curriculum Framework 2076. Government of Nepal, Ministry of Education, Science and Technology.
- Doolittle, P. E., & Hicks, D. (2003). Constructivism as a theoretical foundation for the use of technology in social studies. *Theory & Research in Social Education*, 31(1), 72-104. <https://doi.org/10.1080/00933104.2003.10473216>
- Duru, E., Paksu, A. D., Balkis, M., & Duru, S. (2020). *21st Century Skills Social Constructivist Didactic Guide*.
- Farıslı, M. (2016). Developing the 21st-century social studies skills through technology integration. *Turkish online journal of Distance Education*, 17(1), 16-30. <https://dergipark.org.tr/en/download/article-file/156707>
- Fitriani, W., Komalasari, E., Adzhani, M., & Nelisma, Y. (2022). Development of Research-Based Modules in Educational Psychology Lectures to Improve Creativity. *Jurnal Pendidikan Anak Usia Dini*, 6(4), 603–615. <https://doi.org/10.31004/obsesi.v6i4.2314>
- Guillemin, M., & Gillam, L. (2004). Ethics, reflexivity and ‘ethically important moments’ in research. *Qualitative Inquiry*, 10(2), 261–280. <https://doi.org/10.1177/1077800403262360>
- Hasanah, Y.Y., Salam, U., & Riyanti, D. (2013). Students’ Learning Experience in Conducting Class Presentation. *Pontianak: Universitas Tanjungpura*. <https://core.ac.uk/download/pdf/289710455.pdf>
- Herczog, M. (2010). Using the NCSS national curriculum standards for social studies: A framework for teaching, learning, and assessment to meet state social studies standards. *Social Education*, 74(4), 217-224. [https://www.socialstudies.org/system/files/publications/articles/se\\_7404217.pdf](https://www.socialstudies.org/system/files/publications/articles/se_7404217.pdf)
- Hurst, B., Wallace, R. R., & Nixon, S. B. (2013). The impact of social interaction on student learning. *Reading horizons*.
- Illeris, K., & Ryan, C. (2020). Contemporary theories of learning: Learning theorists...in their own words. *Australian Journal of Adult Learning*, 60(1), 138-143.
- Indriyani, I. E., Syaharuddin, S., & Jumriani, J. (2021). Social interaction contents on social studies learning to improve social skills. *The Innovation of Social Studies Journal*, 2(2), 93-102. <https://doi.org/10.20527/>

- Jancic, P., & Hus, V. (2019). Representation of teaching strategies based on constructivism in social studies. *International Journal of Innovation and Learning*, 25(1), 64-77. <https://doi.org/10.1504/IJIL.2019.096535>
- Jarvenoja, H., & Jarvela, S. (2009). Emotion control in collaborative learning situations: Do students regulate emotions evoked by social challenges? *British Journal of Educational Psychology*, 79(3), 463-481. <https://doi.org/10.1348/000709909X402811>
- Jumriani, J., Mutiani, M., Putra, M. A. H., Syaharuddin, S., & Abbas, E. W. (2021). The urgency of local wisdom content in social studies learning: Literature review. *The Innovation of Social Studies Journal*, 2(2), 103-109. <https://doi.org/10.20527/>
- Kim, B. (2001). Social constructivism. *Emerging perspectives on learning, teaching, and technology*, 1(1), 16. <https://cmaphsconverted.ihmc.us/rid=1N5QXBJZF-20SG67F-32D4/KimSocialconstructivism.pdf>
- Laal, M., Laal, M., & Kermanshahi, Z. K. (2012). 21st century learning; learning in collaboration. *Procedia-Social and Behavioral Sciences*, 47, 1696-1701. <https://doi.org/10.1016/j.sbspro.2012.06.885>
- Lee, D., Huh, Y., & Reigeluth, C. M. (2015). Collaboration, intragroup conflict, and social skills in project-based learning. *Instructional Science*, 43, 561-590. <https://doi.org/10.1007/s11251-015-9348-7>
- Mangkhang, C., Jitviboon, K., & Kaewpanya, N. (2022). Transformative an Area-Based Pedagogy of Social Studies Teachers for New Normal Thaischooling. *Journal of Curriculum and Teaching*, 11(4), 86-96. <https://doi.org/10.5430/jct.v11n4p86>
- Mardiningrum, A., & Ramadhani, D. R. (2022). Classroom oral presentation: Students' challenges and how they cope. *Eralingua: Jurnal Pendidikan Bahasa Asing dan Sastra*, 6(1), 103-119. <https://pdfs.semanticscholar.org/e2db/ff37842eec5ee7802b28c5a1b56302c7815f.pdf>
- Martanto, S. D., Pramono, S. E., & Sanjoto, T. B. (2021). The implementation of blended learning in social studies learning for 21st century skills enhancement. *JESS (Journal of Educational Social Studies)*, 10(1), 9-18. <https://doi.org/10.15294/jess.v10i1.44502>

- Ministry of Education, Science and Technology (MoEST) (2019). *National education policy 2076*. Government of Nepal.  
<https://moecdc.gov.np/storage/gallery/1675850141.pdf>
- Mora, H., Signes-Pont, M. T., Fuster-Guilló, A., & Pertegal-Felices, M. L. (2020). A collaborative working model for enhancing the learning process of science & engineering students. *Computers in Human Behavior*, 103, 140-150.  
<https://doi.org/10.1016/j.chb.2019.09.008>
- Mutiani, M., Supriatna, N., Abbas, E. W., Rini, T. P. W., & Subiyakto, B. (2021). Technological, pedagogical, content knowledge (TPACK): A discursions in learning innovation on social studies. *The Innovation of Social Studies Journal*, 2(2), 135-142. <https://doi.org/10.20527/>
- Nanthawong, N. (2024). A Comparative Analysis of Social Studies Curricula for Enhancing Global Citizenship: A Case Study of New York State, the United States, and Thailand. *Higher Education Studies*, 14(3), 13-27.  
<https://doi.org/10.5539/hes.v14n3p13>
- Nyström, D. (2019). The Social Studies Subjects and Interdisciplinarity. *Nordidactica: Journal of Humanities and Social Science Education*, (3), 24-44.  
<https://www.diva-portal.org/smash/get/diva2:1374821/FULLTEXT01.pdf>
- Okpalama, A.A. (2008). *Social studies textbook for Nigeria Teachers' Education*: Ojo Press.
- Ongardwanich, N., Kanjanawasee, S., & Tuipae, C. (2015). Development of 21st century skill scales as perceived by students. *Procedia-Social and Behavioral Sciences*, 191, 737-741. <https://doi.org/10.1016/j.sbspro.2015.04.716>
- Pardede, P. (2020). Integrating the 4Cs into EFL Integrated Skills Learning. *Journal of English Teaching*, 6(1), 71-85. <https://doi.org/10.33541/jet.v6i1.190>
- Phinla, W. (2016). Approaches to Learning Management in Social Studies Following the Philosophy of Sufficiency Economy to Promote Learners' Learning Skills in the 21st Century. *Veridian E-Journal*. Silpakorn University.  
<https://philpapers.org/rec/PHIATL-4>
- Rao, P. S. (2019). Teaching effective writing skills to the English Language Learners (Ells): A study in ELT. *Alford Council of International English & Literature Journal (ACIELJ)*, 401(2), 32-45. ISSN: 2581-6500.

- Raut, D. B., & Pant, B. P. (2024). Headteachers' Perspectives and Practices on Transformative Learning in Schools: A Narrative Inquiry. *Journal of Vishwa Adarsha College*, 1(1), 97-117. <https://doi.org/10.3126/jovac.v1i1.68061>
- Reader, S. (2003). Innovation and social learning: Individual variation and brain evolution. *Animal biology*, 53(2), 147-158.  
[https://brill.com/view/journals/ab/53/2/article-p147\\_6.xml](https://brill.com/view/journals/ab/53/2/article-p147_6.xml)
- Rubtsova, A. (2019). Socio-linguistic innovations in education: Productive implementation of intercultural communication. *IOP Conference Series: Materials Science and Engineering*, 497(1). <https://doi.org/10.1088/1757-899X/497/1/012059>
- Ruto, Z. J., Shiundu, J. O., & Simiyu, A. M. (2023). The Significance of Primary Social Studies Content Organization in Fostering Knowledge, Skills, and Values for Cohesion and Integration in Kenya. *African Journal of Empirical Research*, 4(2), 909-915.  
<https://www.ajol.info/index.php/ajempr/article/view/259805>
- Saunders, S. and Mill, M.A. (1999). The knowledge of communication skills of secondary graduate student teachers and their understanding of the relationship between communication skills and teaching. NZARE/AARE [Conference Paper]. <https://www.aare.edu.au/data/publications/1999/mil99660.pdf>
- Schroeder, C. M. (2019). Social constructivism as a theoretical model and analytical and comprehensive perspective of facing the problems of the social complex. *Livro de Atas da VIII ICSSW*, 24.
- Shah, R. K. (2019). Effective Social Constructivist Approach to Learning for Social Studies Classroom. *Journal of Pedagogical Research*, 3(2), 38-51.  
<http://dx.doi.org/10.33902/JPR.2019254159>
- Shah, R. K. (2023). Evolving a Model of Critical Pedagogy to Deconstruct the Hegemonic Culture of the Conventional Teacher Centered Social Studies Classroom. *ILAM इलाम*, 19(1), 113-132.  
<http://dx.doi.org/10.3126/ilam.v19i1.58599>



- Smeenck, W., Sturm, J., Terken, J., & Eggen, B. (2019). A Systematic Validation of the Empathic Handover Approach Guided by Five Factors that Foster Empathy in Design. *CoDesign*, 15(4). <https://doi.org/10.1080/15710882.2018.1484490>
- Somphol, R., Pimsak, A., Payoungkiattikun, W., & Hemtasin, C. (2022). Enhancing 4Cs Skills of Secondary School Students Using Project-Based Learning. *Journal of Educational Issues*, 8(2), 721-731. <https://eric.ed.gov/?id=EJ1362322>
- Su, F., & Zou, D. (2022). Technology- enhanced collaborative language learning: Theoretical foundations, technologies, and implications. *Computer Assisted Language Learning*, 35(8), 1754-1788.  
<https://doi.org/10.1080/09588221.2020.1831545>
- Suardika, I. K., Hadara, A., Hasniah, H., & Ningsih, T. Z. (2023). The Use of Oral Presentation Techniques to Improve Communication Skills in Social Studies Learning. *Ta'dib*, 26(2), 303-316.  
<https://ejournal.uinmybatusangkar.ac.id/ojs/index.php/takdib/article/view/9023/3748>
- Sulaiman, N. D., & Shahrill, M. (2015). Engaging collaborative learning to develop students' skills of the 21st century. *Mediterranean Journal of Social Sciences*, 6(4), 544-552. <https://doi.org/10.5901/mjss.2015.v6n4p544>
- Supena, I., Darmuki, A., & Hariyadi, A. (2021). The influence of 4C (constructive, critical, creativity, collaborative) learning model on students' learning outcomes. *International Journal of Instruction*, 14(3), 873–892.  
<https://doi.org/10.29333/iji.2021.14351a>
- Tauginienė, L., Butkevičienė, E., Vohland, K., Heinisch, B., Daskolia, M., Suškevičs, M., ... & Prūse, B. (2020). Citizen science in the social sciences and humanities: The power of interdisciplinarity. *Palgrave Communications*, 6(1), 1-11.  
<https://doi.org/10.1057/s41599-020-0471-y>
- Taylor, J. A., Monck, T., & Ayoub, S. (2014). Arts integration in the social studies: Research and perspectives from the field. *The Councilor: A National Journal of the Social Studies*, 75(1), 5.  
[https://thekeep.eiu.edu/the\\_councilor/vol75/iss1/5/](https://thekeep.eiu.edu/the_councilor/vol75/iss1/5/)
- Taylor, J., & Iroha, O. (2015). Social studies education and public art: The Detroit billboard project. *Journal of Social Studies Education Research*, 6(1).  
<https://doi.org/10.17499/jsser.40975>

- Tian, S., & Mahmud, M. (2018). A study of academic oral presentation anxiety and strategy employment of EFL graduate students. *Indonesian Journal of EFL and Linguistics*, 3(2), 149-170. eISSN: 2503-4197, pISSN: 2527-5070.
- Tohani, E., & Aulia, I. (2022). Effects of 21st Century Learning on the Development of Critical Thinking, Creativity, Communication, and Collaboration Skills. *Journal of Nonformal Education*, 8(1), 46-53. <http://dx.doi.org/10.15294/jne.v8i1.33334>
- Tohara, A. J. T. (2021). Exploring digital literacy strategies for students with special educational needs in the digital age. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(9), 3345-3358. <https://doi.org/10.17762/turcomat.v12i9.5741>
- Vranda, M. N., & Rao, M. C. (2011). Life skills education for young adolescents–Indian experience. *Journal of the Indian Academy of Applied Psychology*, 37(9), 9-15.
- Wang, C. C., & Geale, S. K. (2015). The power of story: Narrative inquiry as a methodology in nursing research. *International journal of nursing sciences*, 2(2), 195-198. <https://doi.org/10.1016/j.ijnss.2015.04.014>