

## INTEGRATING ETHNOMATHEMATICS APPROACH IN TEACHING SCHOOL MATHEMATICS

IN-SERVICE TEACHERS' PERCEPTION

*INTEGRAÇÃO DA ABORDAGEM ETNOMATEMÁTICA NO ENSINO DE MATEMÁTICA ESCOLAR*

*Percepção de professores em serviço*

*INTEGRACIÓN DEL ENFOQUE ETNOMATEMÁTICO EN LA ENSEÑANZA DE MATEMÁTICAS ESCOLARES*

*Percepción de los docentes en curso*

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### ABSTRACT

The teacher is one of the key factors in the transmission of curricular objectives to their students. Their knowledge and positive attitude toward students' ethnomathematics and its pedagogical approach play an important role to make classroom teaching culture friendly. This paper is intended to explore the in-service teachers' knowledge of ethnomathematics and perception on the integration of the ethnomathematics approach in their teaching with respect to the demographic factors of in-service teachers such as gender, academic status, teaching experience, teacher training, and nature of institution they associated. This study was conducted among 120 in-service mathematics teachers from 32 secondary schools in Kathmandu District. The explanatory sequential mix method was employed to carry out this study. The perception of in-service teachers on ethnomathematics pedagogy in their classroom teaching was measured with survey instruments in the first stage. For further justification of the results obtained from the quantitative data, six teachers with different demographic factors were interviewed in the second stage of the data collection process. The relationship between in-service teachers' understanding on ethnomathematics and different demographic factors was investigated using the Pearson Chi-square test. From the statistical data analysis, it was found that there is no relationship between gender, academic qualifications, and teachers' training in their understanding of ethnomathematics. However, a significant relationship was found between the teachers' experience and nature of the institutions they were involved, and their understanding on ethnomathematics. In-service teachers have a similar understanding on ethnomathematics and their perception in the integration of the ethnomathematics approach in the teaching of school mathematics.

Keywords: ethnomathematics. gender. teachers' perception. teaching mathematics.

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## RESUMO

O professor é um dos fatores fundamentais na transmissão dos objetivos curriculares aos seus alunos. Seu conhecimento e atitude positiva em relação à etnomatemática dos alunos e sua abordagem pedagógica desempenham um papel importante para tornar o ensino de sala de aula amigável à cultura. Este artigo pretende explorar o conhecimento dos professores em exercício sobre etnomatemática e a percepção sobre a integração da abordagem etnomatemática em seu ensino com relação aos fatores demográficos dos professores em exercício, como gênero, status acadêmico, experiência de ensino, formação de professores, e natureza das instituições que associaram. Este estudo foi conduzido entre 120 professores de matemática em serviço de 32 escolas secundárias no distrito de Kathmandu. O método de mistura sequencial explicativa foi empregado para realizar este estudo. A percepção dos professores em exercício sobre a pedagogia da etnomatemática em suas aulas foi medida com instrumentos de pesquisa na primeira etapa. Para melhor fundamentação dos resultados obtidos com os dados quantitativos, seis professores com diferentes fatores demográficos foram entrevistados na segunda etapa do processo de coleta de dados. A relação entre a compreensão dos professores em serviço sobre etnomatemática e diferentes fatores demográficos foi investigada usando o teste Pearson Qui-quadrado. A partir da análise estatística dos dados, constatou-se que não há relação entre gênero, habilitações acadêmicas e formação dos professores na compreensão da etnomatemática. No entanto, foi encontrada uma relação significativa entre a experiência dos professores e a natureza das instituições em que estavam envolvidos e sua compreensão sobre etnomatemática. Os professores em serviço têm um entendimento semelhante sobre a etnomatemática e a sua percepção na integração da abordagem etnomatemática no ensino da matemática escolar.

Palavras-chave: etnomatemática. gênero. percepção de professores. ensino de matemática.

## RESUMEN

El docente es uno de los factores clave en la transmisión de los objetivos curriculares a sus alumnos. Su conocimiento y actitud positiva hacia las etnomatemáticas de los estudiantes y su enfoque pedagógico juegan un papel importante para hacer amigable la cultura de enseñanza en el aula. Este artículo tiene como objetivo explorar el conocimiento de los profesores en servicio sobre las etnomatemáticas y la percepción sobre la integración del enfoque de las etnomatemáticas en su enseñanza con respecto a los factores demográficos de los profesores en servicio como el género, el estatus académico, la experiencia docente, la formación docente, y la naturaleza de la institución a la que se asociaron. Este estudio se realizó entre 120 profesores de matemáticas en servicio de 32 escuelas secundarias en el distrito de Katmandú. Para llevar a cabo este estudio se empleó el método explicativo de mezcla secuencial. La percepción de los profesores en servicio sobre la pedagogía de las etnomatemáticas en su enseñanza en el aula se midió con instrumentos de encuesta en la primera etapa. Para una mayor justificación de los resultados obtenidos a partir de los datos cuantitativos, en la segunda etapa del proceso de recolección de datos, se entrevistó a seis docentes con diferentes factores demográficos. La relación entre la comprensión de los profesores en servicio sobre etnomatemáticas y diferentes factores demográficos se investigó mediante la prueba Chi-cuadrado de Pearson. Del análisis estadístico de los datos se encontró que no existe relación entre el género, la formación académica y la formación de los docentes en su comprensión de las etnomatemáticas. Sin embargo, se encontró una relación significativa entre la experiencia de los profesores y la naturaleza de las instituciones en las que estaban involucrados, y su comprensión sobre las etnomatemáticas. Los docentes en servicio tienen una comprensión similar sobre las etnomatemáticas y su percepción en la integración del enfoque etnomatemático en la enseñanza de las matemáticas escolares.

Palabras clave: etnomatemáticas. género. percepción docente. enseñanza de las matemáticas.

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## Introducción

Mathematics is rooted in the everyday activities of different groups of people. Various research studies identified that different cultural activities of people have rich mathematical ideas in dealing with counting objects, measuring cultural phenomena, designing artefacts, locating positions, playing cultural games, and explaining cultural phenomena (Bishop, 1990). People from different groups practice mathematical ideas in the process of performing activities regarding their job. Their ethnomathematics practices in different sectors of everyday life of a different group of people. Ethnomathematics deals with the concepts of reality and action of space and time, and the ways of comparing, classifying, explaining, generalizing, inferring, and, as part of every action, quantifying, measuring, and evaluating (D' Ambrosio, 2006). It is mathematical ideas and procedures elaborated by members of distinct cultural groups to perform their everyday activities (Rosa & Orey, 2010). Such mathematics is an integral part of the everyday activities of different professional groups of people. Thus, ethnomathematics refers to a form of mathematics that varies as a consequence of being embedded in cultural activities whose purpose is other than doing mathematics (D'Ambrosio, 2006).

Mainstream mathematics education primarily focused on the transmission of mathematical content with less attention given to social justice and cultural issues (D'Ambrosio, 2016, p.6). Mathematics teaching without linking the cultural context of learners ultimately does not help to create and develop a mathematical idea. It may devalue the cultural context of our diverse communities (Rosa & Orey, 2011). In this regard, Sharma and Orey (2017) found that the use of cultural artifacts helps to reduce mathematical anxiety because when children start enjoying learning mathematics, teaching becomes meaningful. Mathematics teaching can be made more effective and interesting with the use of an ethnomathematics approach based on learners' past and current experiences regarding everyday activities (Pradhan, 2019).

The teacher is considered a key factor in the transmission of curricular objectives. So, teachers' positive attitudes play an important role to bring students' experiences and cultural values into the classroom. In this regard, Thakur (2019), and Sunzuma and Maharaj (2020) maintained that the teachers' awareness of cultural activities could be integrated into the teaching of mathematics. Further, Sunzuma and Maharaj (2020) viewed that in-service mathematics teachers' knowledge and awareness of ethnomathematics approaches encouraged them to use the learners' local knowledge in the teaching and learning of school mathematics. This study is intended to explore the knowledge of teachers on ethnomathematics and their perception on the integration of the ethnomathematics approach in their teaching. The understanding of teachers on the use of the ethnomathematics approach and their beliefs on the cultural nature of mathematics determines the intention of teachers to implement it in classroom teaching. With this assumption, the present study raises the question: what are in-service teachers' understanding on ethnomathematics? what are in-service teachers' perceptions on the integration of the ethnomathematics approach in classroom teaching and learning? These are the central problems of this study that encouraged the researcher to research teachers' perceptions on the integration of the ethnomathematics approach in the teaching of school mathematics and this paper tries to answer the questions posed.

## Conceptual Framework

Learners' culture and everyday activities regarding ethnomathematical ideas are an integral part of teaching and learning mathematics. It is believed that classrooms and other learning environments cannot be isolated from the learners' communities because students come to school with the values, norms, and concepts they have acquired from their culture and environment. The student's home culture and out-of-school mathematical ideas and knowledge provide opportunities to connect with formal mathematics (Pradhan, 2021). Teachers' knowledge and understanding of ethnomathematics and their perceptions on the integration of ethnomathematics make mathematics more contextual. Teachers' positive perceptions of the integration of ethnomathematics at the secondary level are crucial to ensure better understanding and achievement because students' perception has been constructed from previous experiences with teachers about mathematics (Thakur, 2019).

Teachers' knowledge and their perception on ethnomathematics influence their future teaching practices. My argument in this study is that the teachers' understanding and knowledge on ethnomathematics and their perception of the use of the ethnomathematics approach are key factors that make mathematics teaching culture friendly. Furthermore, it is assumed the demographic factors of in-service teachers such as gender, academic status, teaching experience, teacher training, and the nature of the institutions they are involved are to be the influential factors in the integration of students' ethnomathematics. So, in this framework, in-service teachers' understanding on ethnomathematics is the central idea for this study and is at the central pentagon, where its surrounding pentagons represent the different demographic factors of in-service teachers. So, it is important to study teachers' perception on ethnomathematics and its integration into their classroom teaching together.

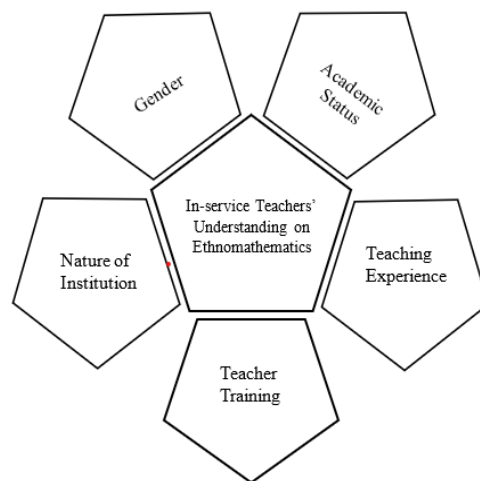


Figure 1: Conceptual Framework of the Study

## Methodology

The explanatory sequential mix method was employed in this study. The first phase of the study used quantitative research, a systematic investigation of phenomena by gathering quantifiable data and performing statistical tools and techniques (Neuman, 2008). This study focuses on gathering numerical data regarding teachers' perceptions on the use of the ethnomathematics approach and generalizing it across mathematics teachers in a similar context. In this study, the researcher emphasizes measuring the demographic variables of teachers precisely and testing hypotheses that are linked to teachers' understanding of ethnomathematics. The qualitative research method was used in the second phase to explain the result obtained from the quantitative method. Qualitative data gathered via oral interviews were conducted with six mathematics teachers from institutional and public schools.

| Variable             | Category                   | Frequency | Percentage |
|----------------------|----------------------------|-----------|------------|
| Gender               | Male                       | 77        | 64.2       |
|                      | Female                     | 43        | 35.8       |
| Academic Status      | Below Bachelor Degree      | 10        | 8.3        |
|                      | Bachelor's Degree or above | 110       | 91.7       |
| Institution's Nature | Community School           | 57        | 47.5       |
|                      | Institutional School       | 63        | 52.5       |
| Teaching Experience  | Below 5 Years              | 30        | 25.0       |
|                      | 5-10 Years                 | 38        | 31.7       |
|                      | Above 10 Years             | 52        | 43.3       |
| Teacher Training     | Trained Teachers           | 85        | 70.8       |
|                      | Untrained Teachers         | 35        | 29.2       |

Table 1: Demographic Profile of In-service Mathematics Teachers

The survey study was conducted among 120 in-service mathematics teachers from Kathmandu District. The data were grouped and categorized based on teachers' demographic profiles consisting of teachers' gender, academic status, nature of the institution, teaching experience, and participation in the teacher training program. Table 1 presents the demographic profile of 120 in-service teachers which was gathered in the questionnaire filled out by the teachers during the survey. The researcher himself constructed self-administered survey statements to measure teachers' perception on the use of the

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ethnomathematics approach in their classroom teaching. The survey instrument used the 5-point Likert scale (5 being the highest). To ensure the reliability of the survey instrument, the items have a 0.89 Cronbach alpha coefficient and had a good enough internal consistency. Expert judgment was used by providing the questionnaire to six mathematics education experts, professors of mathematics education, and researchers to assure its content validity.

The collected quantitative data were analyzed using SPSS 26 version to describe sample characteristics through frequencies, and percentages. Moreover, Pearson's Chi-square test was used to test the hypothesis related to the relationship between understanding on ethnomathematics with different demographic aspects of in-service teachers. For further justification and understanding of the mathematics teachers' motivation and perception towards the use of the ethnomathematics approach in their classroom teaching, interviews with six teachers, belonging to different demographic profiles, were conducted. As this study is an explanatory sequential mix-method, the quantitative and qualitative methods are mixed at the final step of the research process after the collection and analysis of both sets of data. Consequently, the researcher draws inferences that reflect what was learned from the combination of results from the quantitative and qualitative research design.

### **Teachers' Understanding on Ethnomathematics**

Ethnomathematics is a pedagogical program for the development of mathematics education. The knowledge of teachers on ethnomathematics and its pedagogical implication create a classroom teaching culture friendly. In the context of Nepal, learners feel school mathematics is irrelevant to them and school mathematics is not culture-friendly (Acharya, 2015; Pradhan, 2019). With this notion and due to the lack of connection between learners' culture and school mathematics, students are taking formal mathematics as teachers' mathematics, book authors' mathematics, and curriculum developers' mathematics. Teachers' knowledge and their positive perception on ethnomathematics play a crucial role to incorporate learners' ethnomathematics into the school curriculum. In this paper, I am interested to examine in-service teachers' perception on the use of the ethnomathematics approach in their classroom teaching with different demographic factors of teachers such as gender, academic status, nature of institution, teaching experience, and teacher training.

### **Understanding Ethnomathematics and Gender**

The relationship between teachers' understanding on ethnomathematics and gender was investigated using the Pearson Chi-square test. From the statistical analysis, the data revealed that the Chi-square value was .071 with 3 degrees of freedom having  $n=120$  and the p-value was 0.995 which is greater than 0.05. This indicated that the null hypothesis that "there is no relationship between the in-service teachers' understanding on ethnomathematics and gender" is accepted. So, there is no significant relationship between gender and the cultural nature of mathematics. Both male and female mathematics teachers have a similar understanding on the ethnomathematics approach. It is also found that more than 85% of teachers responded agreed and strongly agreed whereas only a few teachers disagreed with the statements regarding the understanding of ethnomathematics.

For further justification of the result obtained from the quantitative data, I asked two female and four male mathematics teachers about their understanding on ethnomathematical ideas and their pedagogical implications. One of the female teachers Rupa (Pseudo name) speaks:

I believe that mathematics is evolving from the culture. Different groups of people are using their mathematical ideas implicitly in their everyday activities. Their children are also doing the same work that their parents do. Children learn similar implicit mathematics in their home culture. But the real deal is to connect their mathematics to school mathematics.

Mathematics is practiced in two different contexts: school context and out-of-school context. However, they are practicing the same kind of mathematics with different purposes. Community people are using

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mathematical concepts and ideas to perform their everyday activities in their ways. Their mathematical ideas and knowledge are context-bound (Pradhan, 2019). On the otherhand, school mathematics is a matter of political decision; some one has made the decision what is worth teaching in the classroom. Most of the research participants, regardless of their gender, reported that mathematics originated from the cultural activities of different societies and different racial groups around the world. Their implicit mathematics knowledge of the group of people provides an opportunity for their children to learn mathematics in the classroom. Teachers who have aware about children's cultural backgrounds and experiences can link with school mathematics teaching in the classroom. The results of the study carried out by Aikpitanyi and Eraikhuemen (2017), Sunzuma and Maharaj (2020) showed that there is no significant difference between male mathematics teachers and their female counterparts in the awareness and use of ethnomathematics approach to classroom teaching. In this study, the male and female teachers held a similar understanding, and hence, can be concluded that gender is not a responsible factor for the understanding of ethnomathematics and its integration in classroom teaching.

### **Understanding Ethnomathematics and Academic Status of Teachers**

The relationship between teachers' understanding on ethnomathematics and their academic status was investigated using the Pearson Chi-square test. The statistical data revealed that the Chi-square value was 1.027 with 3 degrees of freedom having  $n=120$  and the p-value was 0.795 which is greater than 0.05. This indicated that the null hypothesis "there is no relationship between the teachers' understanding on ethnomathematics and their academic status" is accepted. So, there is no significant relationship between the academic status of teachers and understanding ethnomathematics. It can be concluded that there was no significant difference on the relationship between teachers having below Bachelor's degree and Bachelor's degree and above to understand ethnomathematics. However, from the descriptive statistical analysis, it was found that only 8.3% of teachers who have academic degrees below a bachelor's degree disagree on the understanding of ethnomathematics. Whereas 91.7% of mathematics teachers who have the qualification of a bachelor's degree or above responded agreed and strongly agreed on the category of understanding of ethnomathematics.

There was one untrained teacher and five trained teachers as my research participants. For further justification of the result obtained from the quantitative data, a secondary-level mathematics teacher Keshav (Pseudo name) viewed understanding on ethnomathematical ideas and their pedagogical implications as,

I have never learned ethnomathematics in my university mathematics curriculum. I heard the term ethnomathematics somewhere. But I am not sure of the meaning of ethnomathematics. In my view, ethnomathematics is mathematics practices in the everyday activities of a different ethnic group of people.

Because of the pedagogical implication of the ethnomathematics approach, the other teacher participant viewed that mathematics teaching would be interesting if the contents of school mathematics were connected with learners' experiences. Most of the teacher participants had a similar view. From the interview with research participants, they seem to have a sound understanding of ethnomathematics and ethnomathematics pedagogy. Teachers know ethnomathematics and they have a positive attitude toward the use of the ethnomathematics approach in the classroom. It can be concluded that there is no significant relationship between teachers' academic qualification and their understanding of ethnomathematics.

### **Understanding Ethnomathematics and the Nature of Institution**

The relationship between teachers' understanding on ethnomathematics and their institute was investigated using the Pearson Chi-square test. The statistical data revealed that the Chi-square value was 13.107 with 3 degrees of freedom having  $n=120$  and the p-value was found to be 0.004 which is less than 0.05. This indicated that the null hypothesis that "there is no relationship between the teachers'

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understanding on ethnomathematics and their institution (Public school and Institutional/private school) is rejected, and hence, there is a significant relationship between the nature of the institution of teachers and understanding ethnomathematics. From the statistical analysis, differences also seem to exist between public school teachers and institutional (private) school teachers. Institutional school teachers have been found to have a more negative view on the use of the ethnomathematics approach in their classroom teaching in comparison with public school teachers.

From the interview with one of the institutional school teacher participants Ganesh (Pseudo name) about the use of an ethnomathematical approach in classroom teaching,

Integration of an ethnomathematical approach in mathematics teaching is very evident. But the teacher has to teach five to six periods in a day. If a teacher wants to use students' culture-friendly pedagogy, the course would not finish on time. There arises a great dilemma whether to use culture-friendly pedagogy or instead focus on text-book-based, examination-oriented instructional design.

From the assertion of Ganesh, and the interview with other research participants, they agreed that the incorporation of the ethnomathematics approach helps to understand abstract concepts of mathematics. They enjoy the approaches to teaching and learning through culturally friendly pedagogy but they do not have sufficient time to manage and develop the teaching via an ethnomathematical approach. In this regard, other research participants also agreed with the views of Ganesh. He further spoke,

School headteacher and school management want excellent results in the final examination rather than the conceptual development of the students. So, we tend to finish the course beforehand and utilize the remaining time in revision for the best outcome.

The integration of the ethnomathematics approach in classroom teaching develops a conceptual understanding of mathematics. The conventional teaching approach suffices to achieve expected outcomes as the institution wants and teachers do not require to work on the ethnomathematical approach. This does not encourage the integration of the ethnomathematical approach, rather keeps the teachers at a status quo in their teaching school mathematics. So, most institutional teachers use examination-oriented pedagogy for mathematics teaching which focuses on the final output of the results. Such pedagogy focuses mostly on procedural understanding rather than a conceptual understanding of the content. Whereas public school teachers seem to have less pressure else than finishing the curriculum in the given schedule, so, can invest their time in integrating ethnomathematics for conceptual understanding rather than procedural only. Hence, a strong relationship can be seen between the nature of the institution of mathematics teachers on their understanding of ethnomathematics.

## **Understanding Ethnomathematics and Teaching Experience**

The relationship between teachers' understanding on ethnomathematics and their teaching experience was investigated using the Pearson Chi-square test. From the statistical analysis, the data revealed that the Chi-square value was 24.346 with 6 degrees of freedom having  $n=120$ , and the p-value was found to be 0.000 (Asymptotic significance) which is less than 0.05. This indicated that the null hypothesis that "there is no relationship between the teachers' understanding on ethnomathematics and their teaching experience" is rejected. So, there is a significant relationship between teachers' teaching experience and understanding ethnomathematics. From the statistical analysis, it was found that the teachers' years of teaching experience seem to have some influence on their perception on the use of the ethnomathematics approach. The result of this study revealed that the more experienced teachers (above 10 years) had a more positive view of using the ethnomathematics approach in their teaching compared with the teachers having moderate experience (between 5 to 10 years) and the new teachers between 1 to 5 years of experience.

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It is believed that the teachers' knowledge and their perception on ethnomathematics influence their future teaching practices. One of my research participants Rajendra (Pseudo name) with 4 years of teaching experience viewed the use of an ethnomathematical approach in classroom teaching as:

Integration of students' ethnomathematics into teaching mathematics might be an effective pedagogical tool. The connection between learners' culture and school mathematics is rather difficult and it needs extra effort and time for teachers for appropriate connections. It may hinder due to overloaded curricula and the workload of the teachers.

He agreed that the integration of the ethnomathematical approach is pivotal for the development of mathematical understanding and meaningful learning. My other research participant exhibited the ethnomathematical approach as a powerful tool for the teaching and learning of abstract mathematical concepts. They viewed that the use of ethnomathematical ideas and concepts embedded in the out-of-school context and its incorporation in formal classrooms eases students to learn. But still, most teachers are unable to connect learners' cultural practices in the teaching of school mathematics. Teachers who have less teaching experience viewed that teaching load and the time factors affect to use ethnomathematics approach in mathematics teaching. However, the more experienced teachers viewed that the attitude and eagerness of the teacher to shift their tradition to the new one is the major problem to incorporate ethnomathematics pedagogy. The teaching experience of teachers play the role in their perceptions to integrate the ethnomathematical approach in their classroom.

### **Understanding Ethnomathematics and Teacher Training**

The relationship between teachers' understanding on ethnomathematics and their training was investigated using the Pearson Chi-square test. The following table revealed that the Chi-square value was 7.493 with 3 degrees of freedom having  $n=120$  and the p-value was found to be 0.058 (Asymptotic significance) which is greater than 0.05. This indicated that the null hypothesis that "there is no relationship between the teachers' understanding on ethnomathematics and teacher training" is accepted. So statistically, there is no significant relationship between teachers' training and understanding ethnomathematics.

There was one untrained teacher and five trained teachers as my interviewee. For further justification of the result obtained from the quantitative data, I asked an untrained teacher Lokesh (Pseudo name) about his understanding on ethnomathematical ideas and their pedagogical implications. But, he viewed that:

Ethnomathematics is a kind of mathematics practiced in the out-of-school context. It is practiced by an indigenous group of people to fulfill their needs informally. In this era of modern advancement in science and technology, I don't feel any necessity to incorporate indigenous ideas to suffice the modern teaching practice.

However, it is revealed that the teachers who attended teacher training and workshop had a positive view towards the use of the ethnomathematics approach in their teaching as one of them viewed that it is better to use the cultural context of the learners during the teaching of school mathematics. Other trained teachers also mentioned that they try to connect mathematics embedded in the learners' culture and school mathematics in their classroom teaching. The professional development training and workshop in mathematics increased teachers' competence, presumably by increasing their knowledge of mathematics and mathematics instruction.

The out-of-school environment identifies numerous mathematical practices in farming, local business, household activities, children's games, cultural arts, artefacts, and social events. The ways of teaching and learning mathematics in formal school and out-of-school context is different from each other. There is difficulty to connect out-of-school mathematical ideas in the teaching and learning of school mathematics. In this connection, Zambo and Zambo (2008) viewed that the workshops helped teachers learn new strategies and gain personal efficacy, but they did little to raise teachers' beliefs that their students would achieve. Though this research hypothesis was statistically insignificant, the qualitative



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approach defied the result of quantitative data. The mixed research approach helped to define the differentiation of the view of the teachers in view of their training status towards the application of the ethnomathematics approach in their classroom teaching.

### Concluding Remarks

Students bring some sort of cultural experience and knowledge to the classroom. The familiar context of the students is the source for the teaching and learning of unfamiliar and abstract concepts of mathematics. Teachers are one of the main agents to incorporate the cultural experiences of learners in the mathematics curriculum. The relationship between in-service teachers' understanding on ethnomathematics and different demographic factors was investigated using the Pearson Chi-square test. From the statistical data analysis, it was found that there is no relationship between gender, academic qualifications, and teachers' training in their understanding of ethnomathematics. However, a significant relationship was found between the teachers' experience and nature of the institutions they were involved, and their understanding on ethnomathematics. For further justification of the results obtained from the quantitative data, six teachers with different demographic factors were interviewed. Most of the participants viewed that the ethnomathematics approach for teaching and learning school mathematics is effective in teaching mathematics. They agreed that the use of culture-friendly pedagogy and its incorporation in classroom teaching creates a positive attitude towards mathematics.

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