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Original Research

Teachers' Knowledge, Perception and Practice of Learner-Centered Instruction from the Perspective of the Theory of Multiple Intelligences in Primary Schools of West Wollega and Kellem Wollega Zones

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Abstract

This study aimed to explore teachers' understanding and implementation of learner-centered instruction in primary schools in two Wollega zones using multiple intelligences theory. A cross-sectional descriptive survey was conducted, selecting 640 teachers from 30 schools and 300 students. The data was analyzed using mean scores, percentages, and Pearson correlations. The study aimed to increase trustworthiness of the data and improve the reliability of the results. The study found that primary school teachers in the study area lack knowledge about learner-centered instruction from multiple intelligences perspectives and have an inaccurate perception of it. Most teachers use instructional strategies related to verbal/linguistic intelligence, infrequently use strategies related to intrapersonal and visual/special intelligences, and occasionally practice strategies related to interpersonal, logical/mathematical, bodily/kinesthetic, and natural intelligences. However, the distribution of the various intelligences among the students was kinesthetic, musical, logical, interpersonal, intrapersonal, visual, verbal, naturalistic, and "mixed". All three variables and scales showed statistically significant relationships, according to Pearson's correlation result. The teachers' opinions of learner-centered instruction and their methods based on the theory of various intelligence strategies had the highest correlation (r =.70).

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INTRODUCTION

Learner-centered instruction is described as "a system of instruction that places the student in its heart" by Gonzalez-Intal (2001). This indicates that it's a teaching strategy that encourages students to engage in active learning and pursue independent research while also trying to foster in them a love of learning both inside and outside of the classroom. Similarly, learner-centered education denotes a fundamental change from the teacher being the centre of attention in the classroom to the student being the centre of learning, according to Weimer (2002), cited in Beattie (2005).

According to the notion of "student-centered instruction" provided by the aforementioned experts, learners become like the yolk in an egg as they learn. Nonetheless, it was stated clearly by Saulnier, Landry, Longenecker, and Wagner (2009) that student-centered education should not suggest that the

teacher's role is not a crucial component of the learning environment. It's just that the teacher's job description will change. As a result, the instructor will serve as a content knowledge source in addition to being an expert learner, a learning guide, or an integrated environment designer.

The many intelligences theory serves as the theoretical foundation for learner-centered training (Gredler, 2009; Kolb, 1984). This theory put the conventional understanding of intelligence to the test. An alternate definition of human intelligence was proposed by Gardner (1983), who noted that intelligence includes the capacity to solve issues or create products that have an impact on a certain community or location (Ibnian, 2013). "Howard Gardner's multiple intelligence theory (1983, 1999) is an important contribution to cognitive science and constitutes learner-based philosophy, which is an increasingly popular approach to characterizing the ways in which learners are unique and to developing instruction to respond to this uniqueness," according to Richards and Rodgers (2001, cited in Ibinian, 2013).

According to Gardner, the educational system frequently emphasises a limited spectrum of intelligence, which largely consists of verbal (linguistic) and logical (mathematical) talents. He contends that there are at least six more types of intelligences that are crucial to a whole human development and that practically everyone has the capacity to develop them, even though knowledge and abilities in these areas are necessary for surviving and thriving in the world (Gardner, 1983). According to Thomas and Mulat (2006), Howard Gardner's multiple intelligences theory (1983) states that there are eight or more distinct intellectual capacities, also known as biopsychological potentials (linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, interpersonal, intrapersonal, and natural), each of which is associated with a particular area of the human brain that originates from a different brain centre. According to Thomas and Mulat (2006), this idea highlights that each student learns in a different way, and that teachers should design their lesson plans and instructional strategies to take advantage of each student's unique intelligence.

As a result, several academics discovered how Howard Gardner's idea of multiple intelligences relates to schooling. For example, the integration of multiple intelligence theory into classroom pedagogical practice has a broad impact on students, teachers, and classroom learning (Nolen, 2003, quoted in Hodge, 2005). According to her, learning is maximised for the entire class when education is tailored to each student's intelligence. According to Nolen (2003), teachers can identify successful students who are engaged learners with the support of education grounded in multiple intelligence theory. Gibson and Govendo (1999), referenced by Hodge (2005), also pointed out that a lot of literature has been produced regarding the application of multiple intelligence theory to academic assignments. They then go on to discuss how the multiple intelligence hypothesis is applied to the affective components of the classroom. In order to assist early adolescents in realising their potential, Gibson and Govendo (1999) recommended the adoption of multiple intelligence theory in both academic and social contexts. Accepting Gardner's Theory of Multiple Intelligences has various consequences for instructors in terms of classroom training, according to Brualdi

(1996), referenced in Ibnian (2013). According to the notion, in order for society to function in a productive way, all eight intelligences are necessary. As a result, educators ought to value each intelligence equally. This stands in stark contrast to conventional educational frameworks, which usually prioritise the cultivation and application of linguistic and mathematical ability. Consequently, learner-centered training can be theoretically justified by the hypothesis of multiple intelligences.

Many thinkers and practitioners have made an effort to align classroom activities with the realities of the outside world in this way. They exhort us to develop a more sophisticated awareness of the uses of knowledge and to become concerned not only with knowing about but also with knowing how (learning to learn)—giving greater recognition to the various skills required to function in society as human beings, workers, citizens, consumers, and parents (Asichalew, 2013).

The need for an active learning approach in the classroom is promoted by the new Education and Training Policy of 1994 in Ethiopia, where it is believed that citizens' cognitive, creative, productive, and appreciative potential can be developed by appropriately relating education to environmental and societal needs (MOE, 2002, cited in Asichalew, 2013). In order to achieve the nation's educational goals, a strategy that encourages students' active engagement, participation, and creativity is needed. This calls for the application of powerful pedagogical and psychological techniques in order to satisfy the expectations of the upcoming generation. Once more, mastering the idea of multiple intelligences and putting it into practice will help you achieve this. In order to develop an all-around personality, this theory lays a lot of focus on the learners' various innate intelligences and potentials. Therefore, educators play a pivotal role in accomplishing the overarching goals of our nation's recently implemented education and training policy, both at the primary and all other levels. Primary schools should receive special attention because here is where educators create the foundation for the next generation. As a result, educators must be aware of and use the learner-centered approach, which is based on the principle of multiple intelligences.

However, while conducting the student teachers' practicum activities and school placement of the Higher Diploma Programme during their stay at Dembi Dollo College of Teachers' ducation, the researchers noticed some limitations that can impede the proper implementation of learner-centered instruction in teaching and learning in primary schools. The researchers made the decision to investigate student-centered instruction in relation to the many intelligences theory after making this practical observation. As a result, they kept looking for research papers that addressed this problem. Although some local studies on learner-centered approaches could be found, the researchers were only able to locate two local studies that were relevant to this field of study: one M.A. thesis by Ayele (2009), which was conducted in a few chosen primary schools in a district of the Illu-Aba Bora zone of Oromia Region, and one study report for college education in Ethiopia by Thomas and Mulat (2006).

The purpose of this study was to investigate the current state of teachers' knowledge, perception, and practice of learner-centered instruction in accordance with the theory of multiple intelligences. As a

result, the researchers felt that it was beneficial to close the gap in the existing research.

Thus, the research attempted to address the following fundamental queries:

1. *How much do educators understand about learner-centered instruction from the standpoint of multiple intelligences theory?*
2. *How do primary school instructors view learner-centered education from the standpoint of multiple intelligences theory?*
3. *From the standpoint of the idea of multiple intelligences, how much do educators use learner-centered education in their classrooms?*
4. *How do the study area's primary school teachers' understanding, interpretation, and application of learner-centered education compare to the idea of multiple intelligences?*

This study, therefore, was important for the following reasons:

1. *In connection to the notion of multiple intelligences, it enhances teachers' understanding, perspectives, and practices of learner-centered instruction. This will increase students' learning throughout the teaching-learning process.*
2. *Examine how instructors' understanding, perception, and implementation of learner-centered education relate to each other from the standpoint of multiple intelligences theory.*
3. *Offers guidance to decision-makers at several levels, including zone and woreda education office specialists, school administrators, supervisors, and teachers, to engage in addressing issues raised by the study.*
4. *Lastly, but just as importantly, the study might be a springboard for specialists who wish to conduct additional research in a related field or who wish to plan and carry out intervention projects.*

MATERIALS AND METHODS

The research was conducted using a cross-sectional survey design using includes quantitative and qualitative research methodologies. This style of research is deemed appropriate since it enables the investigators to compile a variety of study-related data and arrive at a result that accurately reflects the current state of the issue being studied (Creswell, 2003; Siyuom & Ayalew, 1989; Best & Khan, 2005). The qualitative research approach aids in the comprehensive and detailed collection and description of non-numerical data from many sources by the researchers. The key sources of data for this study were teachers, principals, supervisors, and students from the sampled elementary schools. While the quantitative approach offers opportunities to deal with numerical data and generalise the conclusions from the samples to the entire population (Best & Khan, 2006), the qualitative approach does not. Although the primary school teachers in the two Wollega Zones stated above were the study's target population, sample subjects or respondents were chosen from a sample of Woredas and primary schools in accordance with the study's objectives. As a result, the researchers used the following sampling strategies to choose

the respondents and sample subjects: Initially, it was determined to collect a sample of eight woredas from each of the two Wollega Zones. Based on this, the basic random sample (lottery system) approach was used to select 5 waredas from the West Wollega Zone and 3 waredas from the Kellem Wollega Zone. A proportionate number of Woredas were sampled. In the same way, a basic random sample technique was used to select elementary schools and instructors proportionately. Thus, 418 instructors were chosen from West Wollega Zone 20 primary schools. 222 instructors were chosen from Kellem Wollega Zone 10 primary schools. For this study, a sample of 640 primary school instructors was selected. For the study's target demographic, this sample size is suitable for drawing conclusions from the survey results (Krejicie & Morgan, 1970). To improve the data's dependability, four school principals and three supervisors were selected from the Kellem Wollega Zone. Six school principals and seven supervisors were removed from the West Wollega Zone. In addition, 203 pupils from the West Wollega Zone and 97 students from the Kellem Wollega Zone were chosen. Finding out which intelligences were more common among the students was the aim of the data collection process. Regarding how these pupils were chosen, each sampling school's grade 8 students were chosen at random. Systematic random sampling was used to choose each member of the sample.

Three different instruments were used to collect the data for the study: questionnaires, observation checklists, and focus group talks. Furthermore, a multiple intelligences survey checklist was employed to ascertain the learners' primary intelligences.

A survey instrument is designed to gather data from educators regarding their understanding, interpretation, and implementation of learner-centered teaching concerning multiple intelligences. The questions were originally piloted in one school—which was not one of the sample schools—because they were supposed to be simple and straightforward. Twenty respondents were chosen at random to participate in this pilot test. Following the pilot test, the questionnaire was split into three distinct scales: knowledge (18 items), perception (20 items), and practice (24 items). Using Cronbach's alpha, a reliability coefficient was calculated for each scale to assess internal consistency and reliability. As a result, the knowledge scale had an internal consistency of =.72, the perception scale had a =.76, and the practice scale had a =.68. Although the practice scale's reliability is questioned, any result above.5 is regarded as acceptable (Mertler & Charles, 2010).

Two instructors evaluated the face and content validity of the instrument in order to determine its validity (one from curriculum and instruction background, and the other from psychology). After the experts reviewed the material, two questions were changed and three were discarded. These teachers also offered comments on the questions' phrasing and readability. Furthermore, in terms of construct validity, the questions that have theoretical ramifications for characterising knowledge, perceptions, and practice were generated based on the fundamental questions and a review of the literature, as opposed to being developed at random. Ultimately, 408 primary school teachers from the West Wollega Zone (97.6%) and 214 from the Kellem Wollega Zone (96.4%) of the total respondents had correctly completed and submitted the questionnaire.

Observation: The researchers themselves conducted the observation in the classroom. Therefore, two educators from the fields of natural science, social science, language, and aesthetics—selected using the available sample technique—were observed in the classroom.

Focus Group Discussion: Three supervisors and four school principals from the Kellem Wollega Zone were chosen using a sample technique that was accessible. In the same way, talks were held with six principals of schools and seven supervisors from the West Wollega Zone. Checklist for multiple intelligences surveys: McClellan & Conti (2008) devised a checklist for multiple intelligences surveys, which was utilised by the researchers. The checklist was created using Gardner's multiple intelligences theory as a foundation. Subsequently, the investigators modified this tool to suit the particular study domain. The checklist was translated into the learners' mother tongue (Afan Oromo) because it was completed by them.

Both quantitative and qualitative methodologies were used to analyse the collected data. As a result, the information gathered from the questionnaire was methodically arranged and examined using a range of statistical techniques, including Pearson correlations, mean scores, and percentages. On the other hand, narrative statements were used to analyse the data collected from focus group discussions and observation in a qualitative manner. Additionally, percentages were used to assess and rank the data gathered by the multiple intelligences survey checklist in accordance with the learners' primary intelligences.

RESULTS AND DISCUSSION

The study included a sample of primary school teachers from two administrative zones as one of its data sources. Table 1 below displays some of the traits of these data sources as questionnaire responses.

Of the 622 teachers who responded, over 70% were men and only 30% were women. The fundamental cause of this discrepancy is that, in every primary school visited throughout the data collection process, there were fewer female teachers than male teachers. This is something to think about because, in relation to the absence of role models for females in particular, it may have an impact on their schooling. However, the study has managed to include samples from both male and female professors. According to Table 1, 81.5% of the teacher responders had a diploma, and 18.5% of the sample teachers were first-degree teachers.

Table 1

Respondent teachers by sex, level of education, subject they teach, and service years

Characteristics	Teachers	
	Number (n)	Percent (%)
- Sex: Male	435	70
Female	187	30
Total	622	100

- Level of education by sex: Certificate (TTI):	Male	-	-
	Female	-	-
Table 1 continues…			
Diploma:	Male	348	80
	Female	159	85
Total		507	81.5
- B. A/B.SC/B. Ed:	Male	87	20
	Female	28	15
Total		115	18.5
- M. A/Msc/M. Ed:	Male	-	-
	Female	-	-
Total		-	-
Others:	Male	-	-
	Female	-	-
Total		-	-
- Subject they teach: Languages*:		187	30
- Natural sciences**:		373	60
- Social sciences***:		62	10
Total		622	100
- Teaching experience (in years): 1-5		149	24
6-10		249	40
11-15		131	21
More than 16		93	15
Total		42	100

N.B: * Languages: English, Afan, Oromo, and Amharic

-** Natural sciences: Aesthetics, Environmental science/Basic science/ Chemistry, Physics, Mathematics and Biology

- ***Social Sciences: Civic and Ethical Education, Geography and, History.

A Teachers Training Institute (TTI) certificate is the minimum qualification required for primary teachers, a Teachers Training College Diploma (TTC) is required for second cycle primary teachers, and a B.A. or B.Sc. or above is required for secondary teachers, according to the current Ethiopian Education and Training Policy (Oromia Education Statistics Annual Abstract, 2005). It was discovered that the status of teachers' qualifications was better in light of this information. The quality of schooling could benefit from this. When their qualifications were compared, there was a significant difference based on gender. In order to determine the distribution of intelligences in the sample elementary schools, data on the pupils was gathered. Table 2 below displays a few of the responder students' characteristics.

Table 2

Respondent students by grades and sex.

Grade 8		
Male	Female	Total

No	%	No	%	No	%
153	51	147	49	300	100

As it can be observed from Table 3, out of 300 students (100%) who filled the multiple intelligence survey checklists, 51 % were males and the rest 49 % were females. This showed that almost equal opportunity for education was achieved.

Table 3

Respondent students by age

</=14						15-17						>/=18					
M		F		T		M		F		T		M		F		T	
No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
37	19	17	8	54	18	109	76	108	83	217	72.3	10	5	19	9	29	9.7

Regarding the age distribution of the sample students, Table 4 shows that the bulk of the students (72.3%) belonged to the 15–17 age group. Additionally, 54 students (18%) were younger than or equal to 14 years old. Of the students, 29 (9.7%) were older than or equivalent to 18 years old. Based on the study questions, the findings from the data analysis were arranged under the following four headings: the degree to which primary school teachers understands the notion of learner-centered instruction from the standpoint of the multiple intelligences theory in the field of study, as well as their perceptions and practical applications of it. Knowledge of teachers: The first research question looked at primary school teachers' expertise of learner-centered instruction from the standpoint of multiple intelligences theory. In order to respond to this question, frequencies, percentages, and mean scores for the 16 questions that represented knowledge of learner-centered instruction in terms of the theory of multiple intelligences were calculated based on the replies of the responding instructors. This finding is blown away in Table 4. From the standpoint of the multiple intelligences hypothesis in the research domain, it is possible to discuss the degree of familiarity that primary school teachers have with the notion of learner-centered instruction based on the data gathered from the respondents' responses. In response to the first item, 498 (80%) and 62 (10) of the total respondents said they strongly agreed and agreed, respectively, that the learners are the centre of learner-centered education. However, a sizable portion of respondents (43%, 50%, 54%, 36%, 48, and 36%, respectively) disagreed and strongly disagreed with the idea of learner-centered instruction based on the theory of multiple intelligences for the left-item numbers 2–8. Conversely, a sizable segment of the participants (60%, 65%, 68%, 37%, 63%, 74%, and 68%) expressed significant agreement with the markers associated with the conventional notion of instruction. Lastly, 193 respondents, or 32% of the sample, strongly disagreed with the statement that they knew enough about multiple intelligences theory-based learner-centered training. As a result, 218 respondents, or 35%, said they would like to learn more about learner-centered instruction from the standpoint of multiple intelligence theory. Additionally, the respondents' mean score was lower than the predicted mean score. As a result, learner-centered instruction—particularly as it relates to the theory of multiple intelligences—was unfamiliar to primary school instructors in the research area.

Table 4

Frequencies and Percentages of Knowledge Questions for learner-centered instruction based on the theory of multiple intelligences with Agreement Ratings

No	Statements	Degree of agreement				
		SA (1)	DA (2)	N (3)	Ag (4)	SA (5)
1	Focus on students; students are actively engaged	12(2%)	38(6%)	12(2%)	62(10%)	498(80%)
2	Intelligence is expressed in a person's performance, products and ideas not by a test score	267(43%)	124(20%)	88(14%)	81(13%)	62(10%)
3	Everybody has at least eight intelligences which reflect different ways of interacting with the world	311(50%)	124(20%)	81(13%)	50(8%)	56(9%)
4	Learning is to use knowledge effectively, collaborating with others to address real life situations and problems	50(8%)	56(9%)	50(8%)	211(34%)	255(41%)
5	Students work in pairs, groups, or alone	336(54%)	149(24)	81(13%)	31(5%)	25(4%)
6	Teacher provides feedback/ encouragement/ correction	224(36%)	174(28%)	62(10%)	62(10%)	100(16%)
7	Students answer each other's questions, using teacher as an information resource	299(48%)	193(31%)	62(10%)	37(6%)	31(5%)
8	Students engage in self-evaluation, peer-evaluation in addition to receiving teacher evaluation	118(19%)	224(36%)	81(13%)	112(18%)	87(14%)
9*	Lecture is the main method of teaching	25(4%)	43(7%)	25(4%)	156(25%)	373(60%)
10	A teacher transmits knowledge to students; teacher talks, students listen and take notes	31(5%)	25(4%)	38(6%)	124(20%)	404(65%)
11	There is a unitary intelligence which people are born with	19(3%)	25(4%)	44(7%)	112(18%)	422(68%)
12	Knowledge acquisition is gained apart from its use in real life	162(26%)	106(17%)	205(33%)	112(18%)	37(26%)
13	Students work alone	68(11%)	56(9%)	75(12%)	193(31%)	230(37%)
14	Teacher monitors and corrects students	31(5%)	50(8%)	37(6%)	112(18%)	392(63%)
15	Teacher answers students' questions	12(2%)	19(3%)	6(1%)	124(20%)	461(74%)
16	Teacher evaluates student learning	19(3%)	19(3%)	37(6%)	124(20%)	423(68%)
17	I have enough knowledge about learner-centered instruction based on the perspective of the theory of multiple intelligences	193(31%)	180(29)	31(5%)	118(19)	100(16%)
18	I want to learn more about learner-centered-instruction with respect to the theory of multiple intelligences	19(3%)	87(14%)	118(19%)	218(35)	180(29)

μ (Expected Mean Score) =18*5=90(max.) + 18*1=18 (min.)/2=54. $\bar{X}=\sum Xi/n=9952/622=16$

The outcome derived from the questionnaire and the focus group discussion both showed the same outcome. One of the principals of elementary schools raised the following point during the debate about learner-centered instruction in relation to the many intelligences theory: I am aware that learner-centered education is a teaching approach that puts the needs of the students first. However, I'm not sure I really comprehend the multiple intelligences theory. According to my knowledge, learners can be classified into three common intelligence categories: slow, moderate, and quick learners. It is feasible to deduce that the conventional definition of intelligence, which characterizes intelligence as a unitary aspect, is the one that can be understood from the idea of the previously indicated reaction. All of the respondents gave a cursory explanation of the learner-centered education concept during the focus group discussion, lacking the philosophical background necessary to fully understand it. This is due to the fact that neither throughout

their official teacher training programmes nor during several short-term trainings that were made available to them at various times did the respondents have the opportunity to discuss the idea of multiple intelligences. Thus, it was clear from the conversation that principals and supervisors of elementary schools were unfamiliar with the idea of learner-centered education from the standpoint of multiple intelligences theory. The results of this study were comparable to those of Kennedy-Murray (2016), whose research on middle school teachers in Georgia revealed that most of them were not familiar with the MI theory or how to use it in the classroom. Al-Wadi (2011) found, in contrast, that although teachers were aware of the theory of MI, they had not received any formal training in it, either from a teacher education programme or through professional development about the theory's application in the classroom. Furthermore, according to MacLeod's (2002) research, which Kennedy-Murray quoted, most survey participants were at least "somewhat familiar" with the implications of the multiple intelligences theory for classroom instruction. On the other hand, other scholars think that all educators ought to understand the multiple intelligences hypothesis and how it relates to learner-centered education (Springer, Kopik, & Formella, 2014, quoted in Kennedy-Murray, 2016).This is due to the fact that the foundation of contemporary education is the idea that each student's unique qualities and strengths should be accurately recognised and maximized (Yesil & Korkmaz, 2010). This implies that educators have an obligation to identify the many forms of intelligence exhibited by their pupils and to make sure that they are all making the most use of their intellect. Teachers' Views: The second fundamental inquiry was how primary school instructors viewed learner-centered education in light of multiple intelligence theory. In order to respond to this inquiry, the frequencies, percentages, and mean scores of the twenty items that reflected primary school teachers' opinions about learner-centered instruction from the standpoint of multiple intelligences theory were calculated. This result is blown away by Table 5. It was feasible to address the primary school teachers' opinions of learner-centered instruction from the standpoint of the many intelligences hypothesis in the study area based on the information gathered above in Table 5. Based on the previously acquired data, the majority of respondents concurred with questions 3 through 9. Of the responders, 236 (38%) disagreed with the various approaches to assessment and learning. Furthermore, a sizable portion of respondents (261, or 42%) disagreed with the notion that educators are in charge of their pupils' education. Of them, 243 (or 39%) disagreed that teachers need to have a personal connection with their students. However, 280 people (45%) supported the notion of aiding kids. Furthermore, 305 (49%) people thought that learner-centered, multiple intelligences-based training was difficult. According to 292 (47%) of the respondents, learner-centered education is incompatible with their topics when viewed through the lens of the many intelligence’s theory. They (243, or 39%) thought that teachers had a lot of work to do in order to implement learner-centered instruction. In general, the majority of respondents agreed with the thoughts

mentioned in questions 17 through 20, indicating that learner-centered instruction is perceived negatively in relation to the multiple intelligence theory.

Table 5

Frequencies and Percentages of Perception Questions for Learner-Centered Instruction based on the theory of multiple intelligences with Agreement Ratings

No	Statements	Degree of agreement				
		SD 1	D 2	N (3)	Ag (4)	SA 5)
1	I am a learner-centered teacher	62(10%)	106(17%)	149(24%)	193(31%)	112(18%)
2	The application of multiple intelligences allows learners to become more actively involved	87(14%)	267(43%)	112(18%)	81(13%)	75(12%)
3	The process of learning is always associated with intelligence	46(7%)	77(12%)	29(5%)	313(50)	157(26%)
4	Learner-centered instruction develops intelligence	19(3%)	25(4%)	12(2%)	398(64%)	168(27%)
5	Learner-centered instruction exhibit intelligence in many ways	94(15%)	81(13%)	68(11%)	261(42)	118(19%)
6	Teachers have to structure learning activities around in such a way that they develop strategies that will allow learners to demonstrate multiple ways of understanding and valuing their uniqueness	63(10%)	81(13%)	37(6%)	323(52%)	118(19%)
7	Individuals should be encouraged to use their preferred intelligences in learning because the preferred intelligences recessively influence how a learner learns	56(9%)	62(10%)	81(13%)	255(41%)	168(27%)
8	Instructional activities should appeal to different intelligences	37(6%)	56(9%)	106(17%)	286(46%)	137(22%)
9	Assessment of learning should measure multiple intelligences	44(7%)	62(10%)	62(10%)	274(44%)	180(29%)
10	Because learners do not all learn in the same way, they cannot be assessed in a uniform fashion by using traditional tests (such as multiple-choice inventories, short answer questions, and matching item tests)	236(38%)	211(34%)	56(9%)	62(10%)	57(9%)
11	I am responsible for what students learn and how they learn	162(26%)	261(42%)	75(12%)	75(12%)	49(8%)
12	If teachers take the time to know their students at a personal level, they can have a positive impact on motivation to learn.	174(28%)	243(39%)	31(5%)	112(18%)	62(10%)
13	My most important job as a teacher is to help students understand what it takes to succeed in the real world	63(10%)	93(15%)	12(2%)	280(45%)	174(28%)
14	Learner-centered instruction based on the theory of multiple intelligences is challenging but rewarding	62(10%)	68(11%)	37(6%)	305(49%)	150(24%)
15 *	Learner-centered instruction based on the theory of multiple intelligences is incompatible with my subject area	56(9%)	75(12%)	75(12%)	292(47%)	124(20%)
16	Learner-centered instruction based on the theory of multiple intelligences requires too much work from me	68(11%)	87(14%)	62(10%)	243(39%)	162(26%)
17	Learner-centered instruction based on the theory of multiple intelligences is too time consuming	37(6%)	50(8%)	81(13%)	317(51%)	137(22%)
18	Learner-centered instruction exhibit intelligence in one way	37(6%)	44(7%)	56(9%)	311(50%)	174(28)
19	Students should take my word that what I am teaching will be relevant to them because I know what students need to know and what will be important in the real world	62(10%)	39(6%)	12(2%)	298(48%)	211(34%)
20	To be an effective primary school teacher, the most important thing is to know my subject matter really well	37(6%)	50(8%)	19(3%)	149(24%)	367(59%)

Expected mean=μ(expected mean score=69=max:20*5=100,minim=20*1=20,100+20=120/2=60 X=16; ∑Xi/n=14227/622=23

Additionally, the respondents' mean score was lower than the predicted mean score. This suggested that, from the standpoint of the theory of multiple intelligences, primary school instructors in the study area had an incorrect or unfavourable assessment of learner-centered education. The outcome derived from the questionnaire and the focus group discussion both showed the same outcome. One of the primary school supervisors brought up the following concept of learner-centered instruction from the theory of multiple intelligences during the discussion:

The majority of the time, educators view learner-centered education as a teaching approach in which students actively participate only through discussion in groups and questioning. They even use this, particularly when there is classroom supervision. This indicates that educators believe this style of instruction was imposed on them by a higher authority.

Table 6

Frequencies and Percentages of practices of Learner-Centered Instruction based on the theory of multiple intelligences.

No.	Statement	Degree of practice				
		Never (1)	Rarely (2)	Sometimes (3)	Frequently (4)	Very Frequently (5)
1	I read or lecture to my students	7(1%)	6(1%)	12(2%)	211(34%)	386(62%)
2	My students have the option to discuss or debate during class	13(2%)	37(6%)	174(28%)	379(61%)	19(3%)
3	I encourage students to employ their verbal skills to communicate, solve problems, and express inner feelings.	12(2%)	50(8%)	112(18%)	330(53%)	118(19%)
4	My students have the opportunity to set their own personal goals	255(41%)	267(43%)	75(12%)	19(3%)	6(1%)
5	My students have the opportunity for introspection or deep thinking.	50(8%)	311(50%)	187(30%)	31(5%)	43(7%)
6	I give my students opportunities to make decisions about their learning experiences	124(20%)	243(39%)	193(31%)	37(6%)	25(4%)
7	I encourage my students to perform group brain-storming	25(4%)	131(21%)	323(52%)	112(18%)	31(5%)
8	Students have the opportunity to work in cooperative groups	19(3%)	131(21%)	367(59%)	81(13%)	24(4%)
9	I encourage students to share with one another	12(2%)	50(8%)	467(75%)	62(10%)	31(5%)
10	I encourage my students to think scientifically about things	25(4%)	131(21%)	373(60%)	62(10%)	31(5%)
11	I encourage my students to logically organize and sequence concepts	12(2%)	174(28%)	305(49%)	93(15%)	38(6)
12	My students perform logical problem-solving exercises	37(6%)	180(29%)	330(53%)	68(11%)	7(1%)
13	I encourage my students to visually represent the concepts being taught/ discussed.	37(6%)	373(60%)	124(20%)	68(11%)	20(3%)
14	I use visual aids in class such as maps, charts, and diagrams	149(24)	323(52%)	62(10%)	75(12%)	13(2%)
15	I show video, slides, or movies during class	193(31%)	317(51%)	62(10%)	31(5%)	19(3%)
16	I play recorded music to my students	261(42%)	205(33%)	93(15%)	37(6%)	26(4%)
17	I incorporate the use of musical instruments into my classroom teaching	454(73%)	118(19%)	31(5%)	12(2%)	7(1%)
18	I make tapping sounds or sing little melodies while teaching	342(55%)	124(20%)	93(15%)	37(6%)	26(4%)
19	I provide my students with tactical materials and experience	68(11%)	87(14%)	348(56%)	75(12%)	44(7%)
20	I teach my students physical relaxation exercises	50(8%)	199(32%)	280(45%)	56(9%)	37(6%)
21	My students have the opportunity to use drama, dance, or physical activity as a part of their learning process	124(20%)	156(25%)	249(40%)	56(9%)	37(6%)
22	My students have the opportunity to study about different plants and animals	12(2%)	112(18%)	299(48)	162(26%)	37(6%)
23	I provide field trips for my students to explore the natural environment	554(89%)	25(4%)	25(4%)	12(2%)	6(1%)
24	Students have the opportunity to work with or study about natural phenomena	12(2%)	25(4%)	386(62%)	81(13%)	118(19%)

μ (expected mean score==72=max:24*5=120, minim=24*1=24,120+24=1144/2=72 X=16; ∑Xi/n=14928/62224

The Yilmaz (2008) finding, which was referenced by Tawalbeh and Al Asmari (2015), revealed that teachers had a favourable opinion of learner-centered education. This finding ran counter to that finding. Instructors felt that it made learning interesting, fun, challenging, and applicable to their own experiences. A more recent study (Jo-An & Reigeluth, 2011) found that teachers had favourable opinions of learner-centered instruction when viewed through the lens of multiple intelligences theory. Teachers' Methods: The third fundamental inquiry concerned the use of learner-centered education by primary school instructors, which is predicated on the hypothesis of multiple intelligences. The idea of multiple intelligences was used to determine the frequencies, percentages, and mean scores for the 24 items that reflected the learner-centered instruction practices of primary school teachers in order to respond to this issue. This finding is blown away in Table 6. The eight intelligences identified by Howard Gardner in his theory of multiple intelligences were applied to the 24 elements listed above in Table 6.

Thus, linguistic/verbal, intrapersonal, interpersonal, logical/mathematical, visual/ special, musical/rhythmic, kinesthetic/ body movement, and naturalistic intelligences were assessed using items no. 1 through 3, 4 to 6, 7 to 9, 10 to 12, 13 to 15, 16 to 18, 19 to 21, and 22 to 24. This led to the following description of the information that was gathered from the respondents:

The majority of primary school teachers in the research area (211 or 34%, 379 or 61%, and 330 or 53%) employed verbal and linguistic intelligence tactics often, according to the respondents' responses. The majority of responders 267 or 43%, 311 or 50%, and 243 or 39% rarely employed multiple intelligences' intrapersonal intelligence tactics. The majority of respondents 323 (52%); 367 (59%); and 467 (75% occasionally employed multiple intelligences' interpersonal intelligence tactics. The majority of teachers who responded 373, or 60%, 305, or 49%, and 330, or 53% said that they occasionally used the multiple intelligences' logical and mathematical intelligence tactics. The majority of responding teachers (373 or 60%, 323 or 52%, and 317 or 51%) seldom used the multiple intelligences' visual and special intelligence tactics. Most of them admitted in their responses that they had never used the multiple intelligences' musical and rhythmic intelligence techniques. The majority of teacher responses (348 or 56%, 280 or 45%, and 249 or 40%) occasionally used the multiple intelligences' bodily/kinesthetic intelligence tactics. The field trip method was never used by the majority of respondent instructors (299 or 48%, 554 or 89%, and 386 or 62%), however they occasionally used the many intelligences natural intelligence strategies.

The responses from the respondents had a mean score that was lower than anticipated. According to the notion of multiple intelligences, this suggested that primary school instructors in the research area used less learner-centered instruction. The outcome derived from the questionnaire and the focus group discussion both showed the same outcome. One of the principals of primary schools presented the following concept during the discussion of learner-centered instruction from the standpoint of the theory of multiple intelligences: In most schools, the most common methods of classroom education are still chalk and talk. Teachers with comparatively lighter loads are more suited to teach disciplines like art, music, and physical education, even though such subjects need for unique intelligence. In order to spread the workload among themselves, these previously specified subjects were given to all teachers

after they were given their respective subject area to teach.

Apart from administering the questionnaire and facilitating focus groups, the researchers also made classroom observations. Throughout the classroom observation, lecturing, taking notes on the whiteboard, occasionally posing oral questions, and one-to-five team discussions were the most frequently observed instructional activities. Almost all of the observed teachers' session objectives were as follows: "Students will be able to: describe, tell, list, write at the end of this session." Only the basic levels of educational goals that were reflected in verbal and linguistic intelligence were measured using these behavioural variables.Out of the multiples of different intelligences, the above focus group discussion result showed that verbal and linguistic intelligence was commonly practiced by primary school teachers in the study area. For example, the areas of art, music, and physical education demand tactics related to bodily/kinesthetic, visual/special, and musical/rhythmic intelligence. Teachers were therefore unable to use all forms of intellect. This result was consistent with Kennedy-Murray's (2016) findings. But the fundamental tenet of MI theory is that educators should utilise all forms of intelligence. Because every student is unique in their learning style, the fundamental principle is that "one size does not fit all." To put it simply, this means that educators should take into account a variety of teaching strategies (Gardner, 2011, quoted in Kennedy-Murray, 2016). A multiple intelligences checklist was used to identify the various intelligences, learning styles, and preferences of learners, in contrast to the use of relatively limited learner-centered instruction methodologies. As a result, the distribution of each intelligence was described as follows: 22% of people are physically/kinesthetically intelligent; 17% are musically intelligent; 14% are logical/mathematically intelligent; 11% are interpersonally intelligent; 9% are intrapersonal; 9% are visual; 4% are verbal; and 6% are naturalistic. A small percentage of individuals (8%) exhibited "mixed" preferences, meaning they scored highly in more than one Multiple Intelligences domain (Table 7).

Table 7

The percentage distribution of the different intelligences observed among primary school students in the study area.

No.	Intelligence category	Percentage	Rank
1	Bodily/Kinesthetic	22	1
2	Musical/Rhythmic	17	2
3	Logical/Mathematical	14	3
4	Interpersonal	11	4
5	Intrapersonal	9	5
6	Visual/Spatial	9	5
7	Verbal/Linguistic	4	8
8	Naturalistic	6	7
9	“Mixed”	8	6

Therefore, as it can be seen from Table 7 above, the types of multiple intelligences that were frequently practiced by primary school teachers in the study area were different from the dominant intelligences of the learners.

Relationships between scale scores

The scale scores were computed by averaging across all the items in each score. Table 8 presents the descriptive statistics for each of the three scale scores.

Table 8

Descriptive Statistics for Each Scale Score

	N	Range	Mean	SD
Knowledge Scale	622	64	16	1.2
Perception Scale	622	92	23	1.8
Practices Scale	622	96	24	3.6

In regards to the relationships between the scale scores, Pearson correlations were computed. Table 9 presents those correlations. The results indicate that there was a significantly strong correlation (r =.51, p <.01) between the knowledge and perception scales. This suggests that participants who have low levels of knowledge of learner-centred instruction from the perspective of the theory of multiple intelligences also hold less or negative perceptions towards those strategies. The strongest correlation (r =.70, p <.01) was between the perception scale and the practice scale, indicating a strong positive relationship between participants' perception and practice. There was also a positive correlation between the knowledge and practice scales (r =.51, p <.01).

Table 9

Correlations between the Three Scale Scores

	Knowledge	Perception	Practice
Knowledge	---		
Perception	r=.67	----	
Practice	r=.51	r=.70	-----

Note. Correlations were significant at the .01 level (2-tailed).

Therefore, in answering research question four, it was determined that there were significant correlations between all three scales. The strongest correlation (r =.70) was between the teachers' perceptions towards learner-centred instruction and their practices based on the theory of multiple intelligences strategies, which supports the literature on the impact of teachers' perceptions on their instructional practices. (Denton, 2010; Jordan et al., 1997, cited in Wachob, 2012).

CONCLUSIONS

According to the results of the data analysis, the major findings of the study are the following:

1. Primary school teachers in the study area have no adequate knowledge about learner-centred instruction from the perspective of the theory of multiple intelligences (i.e., $\mu > X$**)**.

2. Primary school teachers in the study area have a wrong or negative perception with regard to learner-centred instruction from the perspective of the theory of multiple intelligences. Teachers perceived learner-centred instruction as a method of teaching that involves the active participation of learners only through asking questions and group discussion. Even they apply this, especially during the time when there is classroom supervision. This means teachers perceive this method of instruction as something that was imposed by authority.

The majority of primary school teachers in the study area were:

i. frequently used or practiced the instructional strategies of verbal and linguistic intelligence;
ii. rarely used or practiced the instructional strategies of the intrapersonal and visual/special intelligences;
iii. sometimes used or practiced the instructional strategies of the interpersonal, logical/mathematical, bodily/kinesthetic, and natural intelligences;
iv. never used or practiced the instructional strategies of musical or rhythmic intelligence;

But the distribution of the different intelligences of the learners in the study area was listed below according to the order of their abundance in percentages.

Bodily/Kinesthetic-first
Visual/Spatial-sixth
Musical/Rhythmic-second
Verbal/Linguistic-seventh
Logical/Mathematical-third
Naturalistic-eighth
Interpersonal-fourth
"Mixed"-ninth
Intrapersonal-fifth

The statistical result of Pearson's correlation indicated that there were significant correlations between all three scales. The strongest correlation (r =.70) was between the teachers' perceptions towards learner-centred instruction and their practices based on the theory of multiple intelligences strategies, which supports the literature on the impact of teachers' perceptions on their instructional practices. (Denton, 2010; Jordan et al., 1997, cited in Wachob, 2012).

RECOMMENDATIONS

Therefore, to alleviate the aforementioned problems, the following recommendations are forwarded:

1. Well-organised and continuous training should be given to the primary school teachers, school principals, and supervisors regarding the theoretical foundation of learner-centred instruction with respect to the theory of multiple intelligences by the university instructors (college of education and behavioural science) in collaboration with CTEs.
2. The theoretical foundations of learner-centred instruction, especially Howard Gardner's theory of multiple intelligences, should be included in the pre-service and in-service curriculum of teacher education programmes by universities (colleges of education and behavioural science) in collaboration with the Oromia Education Bureau and CTEs.
3. Finally, the researchers recommend a more detailed and comprehensive investigation in the same area so as to further strengthen the findings of this

study. Because the main task of this small survey is not to conclude, it is rather a mere attempt to explore and show some ways forward. For instance, even the knowledge, perception, and practice of the primary school teachers in the study area were not studied in terms of the teachers' sex, qualifications, service years, grade level, and subjects they were teaching. the knowledge, perception and, practice of the primary school teachers under the study area were not studied in terms of teachers' sex, qualification, service years, the grade level and subjects they were teaching.

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DECLARATION

There is no conflict of interest.

DATA AVAILABILITY STATEMENT

All data are available from the corresponding author upon request.

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