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ARTICLES

Full Length Research Paper

The effectiveness of teacher work between permanent and non-permanent teachers on the implementation of school-based management in Muhammadiyah Metro elementary school

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The study aims to obtain empirical evidence of the differences in the effectiveness of work on several aspects, including preparing and planning learning activities, the implementation of public administration, responsibility, and task. The study was carried out between the two groups, which were permanent and nonpermanent teachers in Muhamamdiyah Metro Elementary School. The research was conducted in Muhammadiyah Metro Elementary School, Metro Center, Metro City of Lampung Province. The duration of the study was five months during February to June 2016 in the even semester of the 2015/2016 School Year. The ex-post facto method was used in this research. The population in this study was the teachers of Muhmmadiyah Metro Elementary School. The sample used originated from two group which were: The permanent teacher and the nonpermanent teacher. The sample was taken based on the quota of each sample of 7 people with the total sample amounting to 14 people. Data collection on the effectiveness of teacher work was done using the assessment sheet by the school principal. The data of the research were analyzed using the nonparametric statistical technique, Mann Whitney test. The conclusions obtained in this study are: There is a significant difference between the effectiveness of work between permanent teachers and non-permanent teachers on the aspects of preparing and planning the learning activities; there is no significant difference in the effectiveness of work between permanent and non-permanent teachers on the aspects of general administration implementation; and there was no significant difference in the effectiveness of work between permanent teachers and non-permanent teachers on the aspects of responsibility and duties.

Key words: Teacher's work effectiveness, permanent teachers, non-permanent teachers, school-based management.

INTRODUCTION

In the Law of the Republic of Indonesia, Number 20 of 2003 on the National Education System, it is mentioned

that education is a conscious and planned effort to create an atmosphere of learning and learning process so that learners can actively develop their potential to have spiritual power, self-control, personality, intelligence, noble character, as well as the skills, which were required for himself, the society, and the nation. This means the teacher's role in education can not be ignored.

The good achievement in the development of the education sector can not be separated from the role of teachers. Teachers play an important role in preparing learners towards facing their future. The effectiveness of the task implementation of the teacher leads to the implementation of teaching tasks in accordance with certain procedures, techniques, and methods to obtain learning outcomes in accordance with the goals set. Moreover, the improvement of education quality is determined by the readiness of human resources involved in the education process.

Therefore, the teachers are required to have the effectiveness of work that should able to provide and realize the expectations and wishes of all parties that are involved, especially the general public who have trusted the school institutions and teachers in fostering their children as learners. If the effectiveness of teacher work is not achieved, it will lead to students obtaining low quality education. Achieving the quality of good education is strongly influenced by the effectiveness of teachers in performing their duties so that the effectiveness of the teacher's work becomes an important factor in order to succeed in the educational process.

Behind the achievements and progress of Muhammadiyah Metro Elementary School today, there are still some obstacles or problems that are encountered. Among them are lack of adequate facilities and school infrastructure to serve the process of learning activities with the number of students of about 1,098. Among them are the language and science laboratory facilities that are not yet available, according to minimum standards. The volleyball and basketball fields are not available; schoolyard and vehicle parking area are narrow and limited, so there is often congestion at the time of picking up students which make the school environment less comfortable.

In addition, not all of the teachers and employee have understood the importance of implementing school-based management for improving the effectiveness of school management to ensure the quality of learning services, especially for the board of teachers and employees who recently joined and worked in Muhammadiyah Metro elementary school. Another problem is the lack of optimal application in the components of school-based management in the school. Based on this background, the researchers are interested in conducting research in Muhammmadiyah Metro elementary schools that have implemented school-based management as an effort to improve the effectiveness of a teacher's work. These activities are part of the school management in realizing

the quality of primary school education.

The term "school-based management" first appeared in the United States when people began to question the relevance of education to the demands and the development of local communities; whether the learning process is in accordance with the needs of local communities. School-based management is a new paradigm of education, which provides broad autonomy at the school level with community participation, within the framework of national education policy. Autonomy is given to schools to freely manage their resources(human resources and source of funds) by allocating them in accordance with the priority needs that are expected to be more responsive to local needs.

The concept of school-based management, according to Danim (2014), is defined as a "work process done by the school community by applying the rules of autonomy, accountability, participation, and sustainability in order to achieve the quality of education and learning objectives". The process of managing the school is done continuously by involving the entire components and stakeholders.

Meanwhile, according to Slamet (2014), the term school-based management comes from three words: management, based, and school. Management is the coordination and harmonization of the resources through a number of management units to achieve the goals or to fit the customer needs. The word "based" means "based on" or "focused on". The school is the lowest organization in the Department of National Education who is charged to provide the learners with the provision of "basic skills" on the basis of legalistic (macro, meso and micro) and professionalism (Daryatno, 2013).

Associated with the principle of school-based management, Usman (2016) states that there are several principles that need to be considered in implementing School-Based Management which was abbreviated as K8, the principles are as follows:

1. Commitment, the principals and school residents must be strong in mobilizing all school residents to have school-based management.
2. Readiness, all school residents must be physically and mentally ready for school-based management.
3. Engagement, effective education involving all parties to educate the learners.
4. Institutional, school as an institution is the most important unit for effective education process.
5. Decisions, all school decisions are made by those who really understand the education process.
6. Awareness, teachers should have the awareness to assist in decision-making educational programs and curriculum.
7. Independence, the school must be given autonomy, and can be independent in making decisions regarding allocation of funds.
8. Resilience, the change will last longer if it involves school stakeholders.

Based on some opinions about the basic principles of school-based management aforementioned, it can be concluded that school-based management is executed based on governance /management division of tasks and modern with clear authority, the power of institutional mission and vision, the principles of decentralization policies, and decision/decisions made collectively by involving all school stakeholders to realize the independence and resilience of the school.

The implementation and success of the educational process at all levels and units of education is largely determined by teacher factors, resulting in low teacher quality which will have an impact on the low quality of education (Hamalik, 2014). The implementation and success of the educational process at all levels and units of education is largely determined by teacher factors, resulting in low teacher quality which will have an impact on the low quality of education (Hamalik, 2014).

In schools, teachers are the main force in addition to other education personnel who determine the good and bad quality of education, so the effectiveness of teacher work needs special attention. This urgency is impossible to negotiate because the key to improving school quality is the quality of the teacher (Tilaar, 2016). Therefore, teachers are required to work professionally in running the task of learning in the classroom.

Professional teachers will be committed to their tasks, and having high sense of responsibility for creating effective learning in schools. Teachers can perform tasks according to their roles and functions in the education process. Then it is expected that the teacher will be able to teach their subjects excellently in order to achieve the purpose of education in the school. The terminology "work effectiveness" consists of the concept of "effectiveness" and "work". The concept of effectiveness has been described earlier.

While the concept of work according to Armstrong (2013) "involves the exertion of effort and the application of knowledge and skills to achieve a purpose". Work process will involve the effort and the application of knowledge and skills to achieve the goals to be achieved. Meanwhile, Schermerhorn et al. (2013) revealed the concept of work seen from the involvement of individual work as follows:

"Job involvement is the extent to which an individual is dedicated to a job". Job involvement is the extent to which a person can dedicate himself to his work.

Champoux (2015) defines the effectiveness of work as:

"Work effectiveness is the behavioral outcome closely associated with internal work motivation. Internal work motivation is a feeling of self-reward from doing the job itself. Work effectiveness is the result of behavior most closely related to internal work motivation. The motivation of internal work is a feeling of self-esteem for the

achievement of the work that has been done by themselves. The effectiveness of teacher work, in this concept, is understood as the effectiveness of the implementation of teaching tasks.

According to Kyriacou (2014):

"Effective teaching can be defined as intentional teaching by pupils intended by the teacher. In essence, there are two simple elements to effective teaching:

1. The teacher must have a clear idea of what learning is.
2. A learning experience is set up and delivered.

Furthermore, Kyriacou (2014) explains that effective teaching as a successful teaching achieves a learning that is in accordance with the wishes (expectations) of students and teachers. Basically, there are two simple elements for effective teaching:

1. The teacher must have a clear idea about what lessons should be taken into coaching, and
2. A learning experience that is set up and delivered in order to achieve this goal.

Furthermore, Brophy et al. (2014) identifies 10 (ten) "characteristics of effective teaching" described as follows:

1. Clarity of the teacher's explanations and directions.
2. Establishing a task-oriented classroom climate.
3. Making use of a variety of learning activities.
4. Establishing and maintaining momentum and pace for the lesson.
5. Encouraging pupil participation and getting all pupils involved.
6. Monitoring pupils 'progress and attending quickly to pupils' needs.
7. Delivering a well-structured and well-organized lesson.
8. Providing pupils with positive and constructive feedback.
9. Ensuring coverage of the educational objectives.
10. Making good use of questioning techniques.

This quotation describes ten effective teaching characteristics such as: clarity of delivery and direction from the teacher, building a task-oriented classroom climate, creating varied learning activities, building and sustaining momentum and steps for mastery of learning, encouraging the participation of learners for the entire members to be involved In the learning process, to monitor the progress and give immediate response to all the needs of the learner, deliver the lessons in a structured and well-organized pattern, providing the learners with positive and constructive feedback, ensuring the coverage of educational goals, and able to create and use the questioning techniques.

The effectiveness of the teacher's work illustrates the extent to which the teacher can carry out the task the principal has given to him. Among others, to educate, teach, guide, train, and provide learning motivation to learners, in order to achieve the goals of learning in school. The implementation and completion all of the duties, is an illustration of the degree/level to which he is capable of performing his duties.

A teacher is expected to work effectively when the tasks assigned to him is accomplished according to procedures, methods, and techniques and achieve maximum results in accordance with the objectives of learning. In the context of this research, the operational effectiveness of teachers is the implementation of teacher duties that cover three aspects.

First, the administrative aspect of education that includes preparing and planning learning activities; second, is the general administration, namely, filling and signing the attendance register; and third, which is an aspect of responsibility and duty.

METHODOLOGY

This research is conducted on elementary school education unit, that is Central Metro Muhammadiyah primary school in Metro City which has implemented school based management in improving the effectiveness of school management.
The study was conducted on an even semester of the 2015/2016 lesson year, from February to June, 2016.

The research method used is an ex-post facto method. The independent variable is the attribute of teacher status. The status of teachers is based on administrative aspects, divided into groups of permanent and non-permanent teachers. While the dependent variable is the effectiveness of teacher work. Instrument used as a data collector, is the principal's assessment sheet in the form of a teacher activities list, which consists of; first, the administrative aspect of education that constitutes composing and planning learning activities:

1. Annual program
2. Semester program
3. Syllabus
4. Preparation for teaching
5.Discipline student absences
6. Providing recapitulation at the end of the month
7. Create a schedule of lessons list, picket, and school order.

Second, implement the general administrative aspects, namely:

1. Filling out and signing the attendance register
2. Filling the teacher's picket book on the weekdays
3. Complete the administration that is related to the individual duties and responsibilities.

Third, an aspect of responsibilities and duties, including:

1. Present 15 min before the lesson begins
2. Conducting counseling guidance and follow-up programs
3. Teaching professionally, both in the use of teaching aids, methods, strategies and teaching techniques
4. Do not perform actions that harm the students in teaching process
5. Maintain order in action, in every learning activity

6. To maximize the implementation and success of all school's programs
7. Performing the duties as a picketing teacher
8. Submit the teaching preparation paper to the vice principal of the curriculum department.

The teachers' effectiveness assessment sheet instrument is developed with reference to content effectiveness analysis and examination conducted by the learning expert. The population in this research is Muhammadiyah Metro elementary teacher amounted to 14 people. Categorized by their attribute, the population are separated into two groups: the teacher's who are permanent employee of foundation consist of 7 people and the teacher who are not permanent as much as 7 people. Because the number of population is small and not determined by probablitity sampling technique, the data analysis used was non parametric statistics namely Mann Whitney test. This data analysis test method was chosen because the two samples, are different and the tested sample were totally independent.

RESULTS

School profile

The history of the implementation of school-based management undertaken by Muhammadiyah Metro Elementary School which began in 2001, has shown a positive impact on the change and development of the school until this research was conducted. Muhammadiyah Metro elementary school has a , "The realization of Muhammadiyah Metro elementary school as a superior school in achievement and noble character". Administratively, managed by Muhammadiyah Company, Muhammadiyah Metro Elementary School has become one of the leading private education institutions in Metro City. Many achievements have been achieved both academic achievement and non-academic achievement.

The results of self-evaluation of the implementation of school-based management governance of national education standards in Indonesia determined by the National Education Standards Agency in Indonesia can be summarized in Figure 1. From Figure 1, it can be explained that by using the minimum scale range of 1 and the maximum value is 3, then the results of self-evaluation of the implementation of school-based management obtained an overall average of 1.70, in other words, this achievement gives a proportion of 56.67%. The proportion of school-based management achievement in Muhammadiyah Metro elementary school is arranged in order based on the biggest value as presented in Table 1.

In the Table 1, it appears that there are 3 (three) standards whose achievements are below the total average, namely: assessment standards, graduate competency standards, and standards of educators and education personnel. Standards that are specifically concerned with the teachers and employees are the standards of educators and education personnel.

1. Content standar
2. Management standar
3. Process standar
4. Financing standar
5. Facilities and
   infrastructure standar
6. Assessment standar
7. Graduate competence standar
8. Education and education
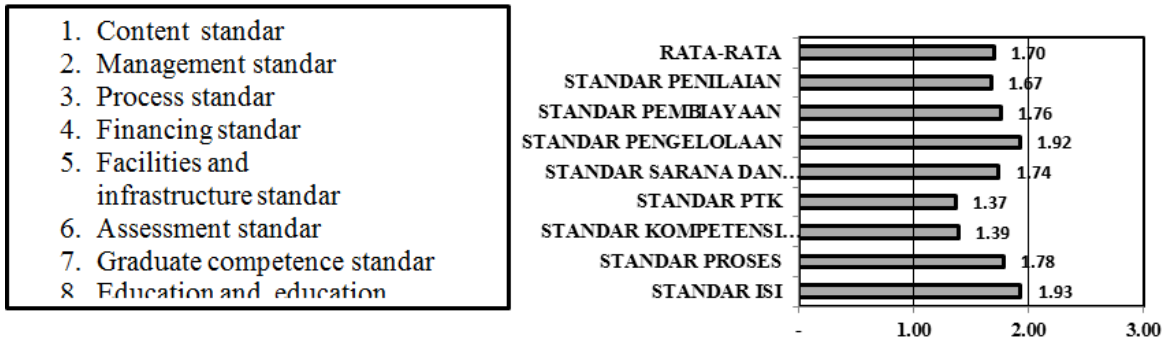
Figure 1. Self-evaluation of elementary school Muhammadiyah Metro, Center Metro, Metro City, Lampung Province in the school year 2015/2016.

Table 1. The order of proportion of achievements of school-based.

National standar	Management implementation	
	Score	Proportion (%)
Content standar	1.93	64.33
Management standar	1.92	64.00
Process standar	1.78	59.33
Financing standar	1.76	58.67
Facilities and infrastructure standar	1.74	58.00
Assessment standar	1.67	55.67
Garduate competence standar	1.39	46.33
Education and education personnel standard	1.37	45.67

The proportion of its achievements in the implementation of school-based management is the lowest (1.37; 45.67%). This achievement is also below the total average proportion of 8 national standards of education that is achieved by the Muhammadiyah Metro elementary school (1.70; 56.67%). The profile becomes important for further tracking regarding educational standards, specifically the teachers. The administrative status of teachers in this study is divided into consisting of permanent and non-permanent teachers. The statistical analysis of the hypothesis test can be seen in the following report.

The hypothesis test result

First, the hypothesis test results intend to obtain empirical evidence that "there is a difference in the effectiveness of teachers' work on the aspects of composing and planning of teaching and learning activities between a group of permanent and non-permanent teachers of Muhammadiyah Metro elementary school, in the implementation of school-based management". Mann Whitney test using statisitical package for socal sciences (SPSS) 16.0

software for windows was used for data analysis. The obtained results are presented in Table 2.

The test results show that the value of Asymp. Sig. (2-tailed) = 0.009 <α = 0.05. This means that we reject Ho at α = 0.05 then the hypothesis stating that "there is a difference between the effectiveness of teacher work on an aspect of arranging and planning of learning activity between permanent teacher and non permanent teacher of Muhammadiyah Metro elementary school in the implementation of school-based management" which was significantly tested.

The test results provide evidence that the teacher's effectiveness between two groups (permanent and non-permanent teachers) in the implementation of school-based management in Muhammadiyah Metro elementary schools, on the aspects of composing and planning learning activities, is significantly different. The total score on the aspects of preparing and planning learning activities on permanent teachers group (n = 7) is 126 (85.71%). While on the same aspect, the total score of non-permanent teachers group (n = 7) is 104 (70.75%). With the results of the aforementioned test, the implementation of activities to arrange and plan the learning activities in permanent teachers group are better than the other group.

Table 2. Summary of Mann Whitney's test results on differences in teacher performance effectiveness on aspects of composing and planning the learning activities.

Test statistics[b]	Effectiveness of teacher work
Mann-Whitney U	5.000
Wilcoxon W	33.000
Z	-2.628
Asymp. Sig. (2-tailed)	0.009
Exact Sig. (2*(1-tailed Sig.))	0.011[a]

[a]Not corrected for ties; [b]Grouping variable: teacher status.

Table 3. Summary of Mann Whitney test results on differences in the aspect of general administrative task implementation.

Test statistics[b]	Effectiveness of teacher work
Mann-Whitney U	18.500
Wilcoxon W	46.500
Z	-0.791
Asymp. Sig. (2-tailed)	0.429
Exact Sig. (2*(1-tailed Sig.))	0.456[a]

[a]Not corrected for ties; [b]Grouping Variable: teacher status.

Second, the hypothesis test results are intended to obtain empirical evidence that "there is a difference in the effectiveness of teacher performance on the general administrative aspects between the groups of permanent teachers and non-permanent teachers of Muhammadiyah Metro elementary school in the implementation of school-based management". From the data analysis results with Mann Whitney test using SPSS 16.0 for windows software, we obtained the following results as presented in Table 3.

The test results show that the value of Asymp. Sig. (2-tailed) = 0.429> α = 0.05. This means we accept Ho at α = 0.05, then the hypothesis stating that "there is a difference of effectiveness of teacher performance in implementing the aspect of general administration, between the group of permanent teacher and non permanent teacher of Muhammadiyah Metro elementary school, in the implementation of school-based management" was not significantly tested.

The total score on the aspects of the implementation of general administration, in the group of permanent teachers (n = 7) was 54 (85.71%). While in the same aspect, the total score in the group of non-permanent teachers (n = 7) was 51 (80.95%). With the aforemention ed test results, there is no statistically significant difference in the implementation of general administration in both groups (permanent and non-permanent teachers). The magnitude of the achievements of both groups is more than 80%, we can conclude that the implementation of general administration aspect in both groups are equally excellent.

Third, the hypothesis test results are intended to obtain empirical evidence that "there is a difference in the effectiveness of teachers' performance in the aspects of responsibilities and tasks between the groups of permanent and non-permanent teachers of Muhammadiyah Metro elementary school in the implementation of school-based management". From the data analysis results with Mann Whitney test using SPSS 16.0 for windows software, we obtained the following results as presented in Table 4.

The test results show that the value of Asymp. Sig. (2-tailed) = 0.094> α = 0.05. This means Ho is accepted at α = 0.05 then the hypothesis stating that "there is a difference of effectiveness of teacher work on an aspect of responsibility and duty between the group of permanent teacher and non permanent elementary school Muhammadiyah Metro in the implementation of school-based management" was not significantly tested.

The total score on the aspects of responsibility and duty in the group of permanent teachers (n = 7) was 144 (76.19%). In the same aspect, the total score in the group of non-permanent teachers (n = 7) was 138 (73.02%). The test results aformentioned, have a meaning that the aspects of responsibility and duties on permanent teachers and non permanent teachers are not fixed there with no difference. The proportion of achievements in both teachers' status is more than 70%, it indicates the implementation on the aspects of responsibility and duties between the two teacher groups, both groups are

Table 4. Summary of Mann Whitney's test results on differences in aspects of responsibilities and tasks.

Test statistics[b]	Effectiveness of teacher work
Mann-Whitney U	12.000
Wilcoxon W	40.000
Z	-1.672
Asymp. Sig. (2-tailed)	0.094
Exact Sig. (2*(1-tailed Sig.))	0.128[a]

[a]Not corrected for ties; [b]Grouping Variable: teacher status.

Table 5. Differences in the effectiveness of teachers' work on aspects of preparing and planning learning activities between permanent and non-permanent teachers.

Indicator	Score		
	Permanent teacher (%)	Non permanenet teacher (%)	Information
Preparing an annual program	18 (75.00)	13 (54.17)	Gaps
Preparing an semester program	17 (70.83)	11 (45.83)	Gaps
Compile syllabus	18 (75.00)	18 (75.00)	Similar
Preparation for teaching	19 (79.17)	17 (70.83)	Gaps
Protecting students' absences	18 (75.00)	11 (45.83)	Gaps
Create a recapitulation of data at the end of the month	18 (75.00)	17 (70.83)	Gaps
Make a list of lessons, pickets, and school rules	18 (75.00)	17(75.00)	Gaps

showing equally good qualities.

From the three hypothesis test result aforementioned, we can obtain empirical evidence that in the implementation of school-based management in Muhammadiyah Metro elementary school, gaps are still encountered, specifically on the aspects of composing and planning the learning activities. In this case, the effectiveness of the teacher's performance of non-permanent teachers group, on the aspects of preparing and planning learning activities, need more attention in order to get improvement in the future.

DISCUSSION

From the results of the hypothesis test aforementiond, the concern to be discussed is the result of the first hypothesis test. The fact that the effectiveness of permanent teachers on aspects of preparing and planning learning activities are higher in the group permanent teachers compared with non-permanent teachers. The gap between the two can be seen through the scores of each indicator as presented in Table 5.

According to Table 5, it appears that from the seven indicators compiled, only one indicator has the quality of composing syllabus. While the six other indicators, namely the preparation of the annual program, preparing the semester program, preparation of teaching, discipline student absences, make data recapitulation at the end of

the month and make a schedule of lists of lessons, pickets, and school rules there are significant differences(gap).

In the group of non-permanent teachers, the six indicators are still under the group of permanent teachers, it is requiring more attention to improve them. Given the fact that there are still gaps in the aspects of preparing and planning learning activities, it should be understood that based on Government Regulation of the Republic of Indonesia number 19 of 2005 On National Education Standards, in Article 49 paragraph 1, it is necessary to increase the independence, partnership, participation, openness, and accountability of the school. School-based management model according to Sagala (2013), refers to two dimensions of understanding:

1. "The governance reform in school management" concerning the reform in school management, emphasize the importance of building school autonomy to respond to the stakeholder aspirations; and
2. "An overall push for curriculum and instructional reform" concerning curriculum development and teaching reform, opening opportunities for innovation development in teaching and learning process ".

These two understandings are actually a whole, in which the main orientation of school management change is aimed at improving the quality of teaching and learning. The idea of using a school-based management model as

an effort to reposition the real rules of the school or educational institution (back to basic), In this case, the role of the school is to provide its prime services (business core) in the implementation of teaching and learning process.

The role of schools in including community participation is something that needs more attention. This is due to the increased efficiency that can be gained through the flexibility of managing resources with community participation and simplification of bureaucracy while improving the quality can be gained through parent participation in the schools, the flexibility of school and classroom management, and increasing the professionalism of teachers and principals.

According to Mulyasa (2014), an increase in equalization among others can be obtained through increased community participation that enables governments to concentrate more on a particular group. This is possible because in some communities there is a growing sense of ownership of the school. In fulfilling the satisfactory learning service, the aspirations of the people must be accommodated in a particular place that is usually called "school committee" which aimed at improving the school performance, which is reflected in the formulation of vision, mission, goals, and priority programs of the school.

Conclusion

From the results of research that has been discussed earlier, it can be concluded that: first, there is a difference in the effectiveness of work between permanent and non-permanent teachers; where the difference lies in the aspects of composing and planning learning activities. The gaps in teachers that are non permanent are: indicators of preparing the annual program, preparing the semester program, preparing for teaching, disciplining the students' absence, making a recapitulation of data at the end of the month, and making a schedule of lesson lists, picket, and school rules. Secondly, there is no difference in the effectiveness of work between permanent teachers and non-permanent teachers on the aspects of general administration implementation. It can be stated that the administration of general administration has been carried out well equally by both teachers' groups. Third, there is no difference in the effectiveness of work between permanent teachers and non-permanent teachers on the aspects of responsibility and duty. It can be stated that teachers in both teachers' groups performed their responsibilities and duties excellently.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

The relationship between principals' cultural intelligence levels and their cultural leadership behaviors

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This study aimed to identify school administrators' views on school administrators' cultural intelligence and cultural leadership behaviors. The study employed relational screening model, a descriptive research method, since it set out to determine the existing situation. "Cultural Intelligence Scale" and "Cultural Leadership Scale" were used in the study as data collection tools. Pearson correlation analysis and multiple linear regression analysis were used in data analysis. The population of this study was composed of 328 school administrators employed in Duzce province during 2013 to 2014 academic year. Based on the result obtained from the participants, it can be argued that administrators have high perception levels regarding Cultural Intelligence and Cultural Leadership. The administrators employed in schools regard themselves as competent in terms of cultural intelligence levels and they believe they present cultural leadership behaviors. Based on participants' perceptions, there is a medium level of positive significant relationship between cultural intelligence levels, cultural leadership roles and cultural intelligence, and its sub dimensions significantly predict cultural leadership roles and behaviors.

Key words: Principal, cultural ıntelligence, cultural leadership.

INTRODUCTION

Culture is the sum of tangible and intangible values of a society, and it is developed by previous generations and transferred to next generations to be further developed and transferred. Organizational culture is a system composed of various elements such as emotions, norms, interactions, efforts, expectations, symbols, rituals, myths, values, beliefs, attitudes, traditions, patterns of behavior and habits, and it is the product of organization's interaction with its environment in various manners (Çelik, 1997; Schein, 1992; Yıldırım, 2001). The identified

elements of a culture can be changed and the changeable characteristics are considered as manageable/ administrable. However, a leader is required to transform, recreate and maintain in other words to manage a culture (Şişman, 1994; Yıldırım, 2001) since the leader provides sense and meaning to the cultural environment (Erçetin, 1998).

The leader in the traditional leadership process is considered to be the individual who has the biggest or most influential effect on the members of the group and it

is basically defined as the person with most influence on the individuals or the group (Freadman et al., 2003) and as the person who directs the others to behave with a specific purpose (Hitt et al., 1975). Especially since the second half of the twentieth century, scientific studies on leadership have started to focus on the traits that distinguish leaders from non-leaders and followers (Hoy and Miskel, 2012) and traits that separate effective leaders from ineffective ones. The first theory on leadership suggests studying the traits that separate leaders from non-leaders (Robbins and Judge, 2012). Previous studies have presented many personal traits of leaders. As a matter of fact, the elements that distinguish leaders are their personal traits. Especially, the psychological and physiological traits of leaders have been the focus of studies so far (Şişman, 2002; Çelik, 1999; Stogdill, 1981; Immegart, 1988).

What makes a leader effective? The answer to this question has been intensely examined by the researchers since the 1970's in the framework of behavioral approaches to leadership. Studies in the framework of behavioral approaches have mostly focused on leader behaviors, leadership styles as a pattern of behaviors and their effects on the group. The success of the behavioral leader lies in the attitudes and behaviors of the leader presented to the observers. Based on this approach, leadership is a behavioral process in leadership role systems. The leader relies on main personal resources to ensure desired behaviors in the group towards which he has responsibility (Werner, 1993). Leader behaviors are based on two different dimensions in the theory. While one dimension is related to individuals, interpersonal relationships and the permanency of the group, the other dimension is interested in production job definitions and obtaining the goals (Cartwright and Zander, 1953). Therefore, the approach highlights the leadership behaviors that focus on interpersonal relationships, take the needs of the personnel and differences among members into consideration and emphasize the job technique and content (Robbins and Judge, 2012).

The last phase in leadership theories is based on situational leadership and more recent leadership theories. Conditions in situational leadership approaches mostly require different leadership styles and "situations create the leader" understanding is prominent (Hoy and Miskel, 2012). In the situational theory which states that it is impossible to predict the effective leadership behaviors in different situations and that there is no single most effective leadership style valid for all situations (Şimşek, 2010; Çelik, 1999), researchers have attempted to identify the distinctive traits of the environments that can be the source of leader success and distinguish the traits of leadership situations related to leader behavior and performance (Campbell et al., 1970; Vecchio, 1993). Contingency either increased or limits the influence of the

leader (Hoy and Miskel, 2012). From another perspective, situational leadership theory should focus on the observers. Situational models assume that selecting the most appropriate leadership style based on the qualities of the tasks that the observers desire or can accomplish or based on observer traits will define the success level of leadership (Robbins and Judge, 2012).

Almost approximately one hundred new leadership theories have been developed or proposed in this process identified as modern/new and even newer leadership theories in the last phase of approaches in the field. One of these prominent leadership approaches is cultural leadership (Lunenburg and Ornstein, 2013; Elmore, 2000). Cultural leadership is especially crucial to realize the mission of schools (Çelik, 1999). Cultural leadership is a leadership style that aims to establish and develop organizational culture and strives to shape and develop a strong and at the same time flexible cultural structure for the organization (Erdoğan, 2002). The most important aspect of cultural leadership is the change and transformation of culture and values (Şimşek, 1997). There are three basic roles for cultural leaders in the context of educational institutions: interpreting the tasks, norms and values of the school, modeling behavior and identifying the details of the behavior (Gürses, 2003).

Intercultural studies undertaken so far have presented the importance of personal competences (Ang et al., 2007; cited by Şahin et al, 2012) and leadership competences focus on three general knowledge field (Northouse, 2004; Erzurum, 2007): conceptual, technical and social knowledge and skills.

These competences are also called the power of expertise that the leader will have. In general sense, conceptual expertise is the competence to work with ideas and concepts. Technical expertise points to knowledge and competence in a specific task or activity. Social expertise is related to ability to work with individuals and have knowledge in this regard. All these are the personal competences of the individual. Cultural intelligence, one of the personal competences, is highly crucial for effectiveness in intercultural leadership (Şahin, 2011). For instance, it was found that cultural intelligence contributed to individual performance more than their demographic characteristics and general cognitive competences and that finding shows that cultural intelligence positively affects individuals' performances in intercultural or multicultural environments. The concept provides important opportunities for practice in terms of leadership. Based on the research, cultural intelligence was found to provide a set of important competences for cultural leadership (Şahin, 2011).

School leadership and school culture can be defined as intertwined processes. Although, school culture is founded on the deep values of the school history and the society, transformation and renewal of the school culture becomes more prominent with the basic function of the

leader. The relationship between school culture and leadership is also related to negative or positive evolution of the culture (Deal and Peterson, 2009). Schools with cultures that are strong and open to sharing, have higher chances to transform individual goals to shared targets because there is a collective consciousness in strong organizational cultures. Therefore, the consistency of the vision with the organizational culture is more important than who has developed the vision individually. Cultural intelligence is a set of competences that allows individuals to function efficiently and be successful in a different cultural or multi-cultural environment. Cultural intelligence develop according to multiple intelligence theory is composed of meta cognitive, cognitive, motivational and behavioral components (Van Dyne et al, 2008; Earley and Ang, 2003; cited in Şahin, 2011).

Cultural intelligence which is one of the personal competences is very important for and effective in cultural leadership (cited in Şahin, 2012).

That is to say, cultural intelligence is a personal competence in its general sense (İşçi et al., 2013). Cultural intelligence is required to effectively interact with different cultures (Triandis, 2006). The studies show that cultural intelligence contributes to individual performance more that demographic characteristics and general cognitive competences, and it is found that cultural intelligence can positively affect performance in intercultural or multicultural environments. The concept provides important opportunities for leadership practices. Studies in the field show that cultural intelligence provides an important skill set for cultural leadership (Thomas et al., cited in Şahin et al, 2012) reported that one of the main factors that highlights the failure of international businesses is the lack of managers in competences and skills necessary for intercultural success and stressed the importance of cultural intelligence (cited in Yeşil, 2009). Based on the importance of cultural intelligence and cultural leadership concepts, it is necessary to investigate whether there is a relationship between school administrators' cultural intelligence levels and cultural leadership, and to what extent cultural intelligence levels predict cultural leadership.

Purpose of the study

What are school administrators' views related to cultural intelligence and cultural leadership behaviors? Answers to questions below were sought in this context.
1. What are administrators' cultural intelligence and cultural leadership levels?
2. Is there a relationship between administrators' cultural intelligence levels and cultural leadership behaviors?
3. To what extent do administrators' cultural intelligence levels predict cultural leadership?

METHODOLOGY

Research model

Since the study aims to identify an existing situation, the study employed relational screening model which is one of the descriptive research methods. Screening models are research approaches that aim to describe a past or present situation as is. The subject or object of the study is attempted to be defined as its own conditions and is not tried to be changed or influenced in any manner (Karasar, 2005).

Research universe and sample

The universe of this study was composed of a total of 447 school administrators, 177 school principals, 28 head assistants and 242 assistant principals on permanent staff in 331 schools in Duzce province employed in 2013 to 2014 academic year. Sampling method was not used in the study, and surveys were sent to the whole universe. 338 of the surveys were received back and some of the surveys were left out after assessing them based on the purpose of the study. The remaining 328 surveys were analyzed. Table 1 presents the participant data. 267 (81%) of the participating administrators were males whereas 61 (19%) were females. 92 (28%) of the participating administrators were principals, 20 (6%) were head assistants and 216 (66%) were assistant principals. 48 participants (14.6%) worked for 1 to 5 years, 77 (23.5%) for 6 to 10 years, 79 (24.1%) for 11 to 15 years, 67 (20,4%) had 16 to 20 years professional experience and 57 participants (17.4%) had 21 years and more experience. 26 (7.9%) of the participating administrators graduated from 2 to 3 year college and 235 (71.6%) graduated within 4 years faculties. 66 (20.1%) participants had master's degree and 1 had (0.3%) doctorate degree. 272 (82.9%) of the administrators were employed at their present schools for 1 to 5 years, 40 (12.2%) for 6 to 10 years, 12 (3.7%) for 11 to 15 years, 3 (0.9%) for 16 to 20 years and 1 (0.3%) for 21 years and more.

Data collection tools and validity-reliability studies

"Cultural Intelligence Scale" and "Cultural Leadership Scale" were used in the study as data collection tools. "Cultural Intelligence Scale (CQS) was developed by Ang et al. (2007) and adapted to Turkish by Şahin et al. (2012). The scale is composed of four sub factors. The first factor is meta cognitive cultural intelligence (1,2,3,4. items), the second factor is cognitive cultural intelligence (5,6,7,8,9 and 10. items), the third factor is motivational cultural intelligence (11,12,13,14,15. items) and the fourth factor is behavioral cultural intelligence (16,17,18,19,20. items). Cultural Intelligence Scale Cronbach Alpha reliability values were found to be 0.78, for "Meta Cognitive Cultural Intelligence" factor, 0.81 for "Cognitive Cultural Intelligence" factor, 0.78 for "Motivational Cultural Intelligence" factor and 0.82 for "Behavioral Cultural Intelligence" factor. General reliability value for the scale was found to be 0.87. Cultural Leadership Scale was developed by Yıldırım (2001) and it has 21 items and one dimension. Cronbach Alpha and item analysis statistical work as well as reliability and validity studies of the Cultural Leadership Scale were undertaken by Yıldırım (2001). Reliability coefficient of the scale was found to be as Cronbach Alpha = 0.88. Reliability coefficient of the scale was investigated in the current study as well and as can be seen in Table 2, Cronbach Alpha coefficients of the Cultural Leadership and Cultural Intelligence and its sub dimensions were found to be at rather high levels.

Table 1. Demographic characteristics of administrators in the participant group (N = 328).

Variable	N	%
Gender		
Male	267	81
Female	61	19
Age		
21-30	17	5
31-40	170	52
41-50	100	30
51 and higher	41	13
Status		
Principal	92	28
Head Assistant	20	6
Assistant Principal	216	66
Professional Experience		
1-5 Years	18	5
6-10 Years	97	30
11-15 Years	89	27
16-20 Years	67	20
21 Years and higher	57	18
Education		
2-3 Year College	26	7.9
4 year Faculty	235	71.6
Master's	66	20.1
Doctorate	1	0.3
Employment Period at Present School		
1-5 Years	272	82.9
6-10 Years	40	12.2
11-15 Years	12	3.7
16-20 Years	3	0.9
21 Years and higher	1	0.3

Statistical analysis of the data

Normality assumptions of the data were tested in the study with the help of "One-Sample Kolmogorov-Smirnov". Pearson correlation analysis and multi regression analysis were used to determine the relationship.

Findings

Findings regarding administrators' cultural intelligence and cultural leadership levels

Table 3 presents the descriptive statistics related to administrators' views on the levels of Cultural Intelligence and Cultural Leadership and its sub dimensions. Table 3 presents the arithmetic mean of administrators' CulturalLeadership as ($\bar{X}$= 4.02) and Cultural Intelligence arithmetic mean as ($\bar{X}$= 3.62). For Cultural Intelligence scale sub dimensions; average arithmetic mean for Meta Cognitive Cultural Intelligence sub dimension was ($\bar{X}$ = 2.72), average arithmetic mean for Cognitive Cultural Intelligence sub dimension was ($\bar{X}$ = 3.74), average arithmetic mean for Motivational Cultural Intelligence sub dimension was ($\bar{X}$ = 3.77) and average arithmetic meanfor Behavioral Cultural Intelligence sub dimension was ($\bar{X}$ = 3.62). Based on the obtained results, participating administrators' perception levels for Cultural Leadership and Cultural Intelligence were found to be

Table 2. Predicted cronbach alpha values for the scales used in the study.

Variable	R
Cultural Leadership	0.914
Meta Cognitive CQ	0.824
Cognitive CQ	0.871
Motivational CQ	0.861
Behavioral CQ	0.903
Total CQ	0.923

Table3. Descriptive statistics for the scales used in the study.

Variable	$\overline{\mathrm{X}}$	SS	Kurtosis	Skewness
Cultural Leadership	4.02	0.57	-0.77	0.73
Meta Cognitive CQ	2.72	0.44	-1.05	2.22
Cognitive CQ	3.74	1.06	0.07	-0.75
Motivational CQ	3.77	0.84	-0.47	-0.18
Behavioral CQ	3.69	0.86	-0.56	-0.19
Total CQ	3.62	0.65	-0.24	0.05

Table 4. Correlation and multi variable regression matrix.

Variable	1	2	3	4	5	6	B	SE (B)	β
1 Cultural Leadership	1.00	0.470**	0.326**	0.404**	0.404**	0.491**			
2 Meta Cognitive CQ			0.387**	0.536**	0.417**	0.669**	1.469**	0.259	0.322
3 Cognitive CQ				0.505**	0.473**	0.803**	0.168	0.128	0.074
4 Motivational CQ					0.627**	0.842**	0.217	0.193	0.076
5 Behavioral CQ						0.809**	0.520**	0.173	0.187
6 Total CQ						1.00			
Breakpoint							45.593*	3.723	
R^2= 0.282									

generally high whereas their perception levels regarding Meta cognitive cultural intelligence were found to be low.

Findings regarding the relationship between administrators' cultural leadership and cultural intelligence and its sub dimensions

The study investigated whether there was a statistically significant relationship between administrators' cultural leadership and cultural intelligence sub dimensions and whether administrators' cultural intelligence levels predicted their cultural leadership behaviors. Table 4 presents the results for correlation analysis undertaken to determine the relationship between school administrators'

cultural leadership and cultural intelligence sub dimensions and the results of regression analysis results conducted to identify to what extent participants' cultural intelligence perceptions predicted their cultural leadership behaviors. The correlation coefficient between 0 to 0.30 points to no relationship, values between 0.31 to 0.49 point to weak relationship, values between 0.50 to 0.69 point to medium level relationship and values between 0.70 to 1.00 shows strong relationship (Sönmez, 2008). As can be observed in Table 4, there is a statistically significant relationship between Cultural Leadership and Meta Cognitive Cultural Intelligence, Cognitive Cultural Intelligence, Motivational Cultural Intelligence, Behavioral Cultural Intelligence and Cultural Intelligence Total scores (p < 0.01). A medium level of

positive and significant relationship was found to exist between Cultural Leadership and Cultural Intelligence (p < 0.01).

First of all, multicollinearity statistics were examined in order to conduct multiple regression analysis and it can be argued that the assumption was validated since VIF values were lower than 20 and tolerance values were higher than 0.05 (Tabachnick and Fidel, 2013). Later, multiple regression analysis was conducted to determine to what extent cultural intelligence levels predicted cultural leadership levels. Results of these analyses are provided in Table 4. According to the results, the linear combination of these four sub dimensions significantly predict cultural leadership F (4.323) = 31.702, p < .01. These four predictor variables explain 28% of cultural leadership. Unique predictive effects of Meta Cognitive Cultural Intelligence [t (326) = 5.67, p < 0.01, β = 0.322] and Behavioral Cultural Intelligence [t (326) = 2.99, p < 0.01, β = 0.187] were found to be statistically significant. On the other hand, unique predictive effects of Cognitive Cultural Intelligence and Motivational Cultural Intelligence sub dimensions were not found to be significant (p < 0.01). Based on this, these variables were found to have no significant effect on cultural leadership when the effects of all other predictor variables were controlled.

RESULTS AND DISCUSSION

The study which aimed to identify the relationship between school administrators' cultural intelligence levels and cultural leadership behaviors provided the following results. Based on the obtained findings, the participating administrators have high levels of perceptions regarding cultural Intelligence and cultural leadership. Therefore, while school administrators regard themselves to be competent in terms of cultural intelligence levels, they also think they display cultural leadership behaviors. This result is believed to be rather positive finding for the education system and educational staff. Based on participating administrators' perceptions, there is a medium level of positive and significant relationship between their cultural intelligence levels and cultural leadership roles. Therefore, administrators believe that their cultural leadership roles increase when their cultural intelligence levels rise. Similarly, they believe their cultural leadership roles and behaviors will decrease when their cultural intelligence levels decline.

Study results show that cultural intelligence and its sub dimensions predict cultural leadership roles and behaviors. Therefore, school administrators can be said to display cultural leadership behaviors to the extent that their cultural intelligence levels are high. In other words, school administrators' cultural leadership roles can be explained with their cultural intelligence levels to some extent. The facts that school achievement will increase

when school administrators undertake more cultural leadership roles and that there is a positive relationship between cultural leadership and organizational commitment are supported with the findings of study. The study examined the effects of cultural intelligence levels of staff employed in health organizations and some professional and socio-demographic traits on cultural intelligence and found that the participants used cognitive processes the most in order to obtain and comprehend knowledge. Therefore, it can be argued that cultural intelligence is an important factor in cultural behaviors.

Dhaliwal's (2010) study that investigated the relationship between school leaders' leadership styles and their cultural intelligence levels identified a strong relationship between school leaders' (administrators and teachers) leadership styles and their cultural intelligence levels. Kim (2009) reported a strong relationship between cultural intelligence and job performance and job satisfaction. Matear's (2009) study presented a relationship between transformational leadership and emotional as well as between cultural intelligence and motivation. Scholl's (2009) study pointed to a direct positive relationship between multinational team work and organizational performance. Karaköse's (2008) study which investigated school administrators' cultural leadership behavior levels in practice found that participating teachers believed that administrators had "indecisive" attitudes towards implementing cultural leadership behaviors in practice; administrators should first adopt and internalize the values and norms of the organization to undertake cultural leadership roles, administrators should be good role models that would reflect cultural values and norms in their behaviors and would ensure other staff to act accordingly to contribute to the development of school culture. Şahin (2011) investigated the relationship between leader's cultural intelligence and the subordinates' organizational citizenship behaviors and job satisfaction.

Results of the study supported the view that leaders' cultural intelligence levels are related to subordinates' organizational citizenship behaviors and job satisfaction. As a result, the findings that point to the existence of a positive, medium level and significant relationship between school administrators' cultural intelligence levels and cultural leadership roles and that cultural intelligence and its sub dimensions significantly predict cultural leadership roles and behaviors are parallel to various research results in the literature. It can be argued that cultural intelligence levels of especially the administrators are important factors in the cultural behaviors that they will display.

Conclusion

This study aimed to identify school administrators' views on school administrators' cultural intelligence and cultural

leadership behaviors. Based on the obtained findings, the participating administrators have high levels of perceptions regarding cultural Intelligence and cultural leadership. Administrators believe that their cultural leadership roles increase when their cultural intelligence levels rise. Similarly, they believe their cultural leadership roles and behaviors will decrease when their cultural intelligence levels decline. Also, school administrators can be said to display cultural leadership behaviors to the extent that their cultural intelligence levels are high. Since there is a strong relationship and causality between school administrators' cultural intelligence levels and their cultural leadership roles and behaviors, the following suggestions can be made for school administrators: cultural leadership behaviors and cultural intelligence levels of administrators who will be assigned or selected for administrative roles in educational organizations should be taken into consideration. Cultural leadership training should be provided for school administrators assigned to existing posts. Opportunities should be presented to establish administrative and organizational structures in which school administrators can present their cultural leadership roles and practice opportunities should be given to school administrators in this regard.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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Full Length Research Paper

Teachers' attitude towards implementation of learner-centered methodology in science education in Kenya

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This study aims to evaluate teachers' attitude towards implementation of learner-centered methodology in science education in Kenya. The study used a survey design methodology, adopting the purposive, stratified random and simple random sampling procedures and hypothesised that there was no significant relationship between the head teachers' attitudes, the teachers' attitudes and the level of implementation of Activity-focused methods, Student-centred activities, Experimenting and Improvisation through the Plan, Do, See and Improve (ASEI/PDSI) classroom practices. A sample of 68 head teachers, 147 science teachers and 16 trainers was used for the survey. The study established that majority of the teachers (75%) were partial implementers, and a few (5%) were full implementers. The Chi-square findings for the head teachers were: Biology $\chi^2=72.35>66$, Chemistry $\chi^2=69.38>66$, and Physics $\chi^2=67.03>66$. The teachers were: Biology $\chi^2=55.3429>54$, Chemistry $\chi^2= 54.4581>48$ and Physics $\chi^2=69.4286>58$ meaning that they were significant. The conclusion was to reject the null hypothesis, and accept the alternative hypothesis that there is a significant relationship between the teachers' and head teachers' attitude, and the level of implementation of the ASEI/PDSI classroom practices. The study recommended that since the level of implementation was found to be related to the teachers' and head teachers' attitudes towards the innovation, the national Strengthening of Mathematics and Sciences in Secondary Education (SMASSE) inset should then have strategies to bring on board those who still have a negative attitude in order for the implementation to be successful.

Key words: Teachers attitude, science education, learner-centred methodology, constructivism, in-service training, implementation of innovations.

INTRODUCTION

Innovation is the creation of better or more effective products, process, services, technologies or ideas that are accepted by markets, governments, and society. According to Dylan (2007), successful innovation implementation depends on its acceptance by the targeted end users. Implementation of innovation is confirmed when an innovation has been institutionalized to the point that it is no longer construed as a new idea or

practice in an institution.

The Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA) in Kenya is charged with responsibility of building teachers' capacities to enable them to cope with the pedagogical related challenges faced in the process of curriculum delivery in the area of mathematics, sciences and technology. These subjects according to the Republic of Kenya (2012) are the foundational subjects for science and technology innovations which support the education pillar of Kenya's vision 2030. In 1998, Kenya adopted the CEMASTEA approach which currently coordinates the Strengthening of Mathematics and Sciences in Secondary Education (SMASSE) In-service Training (INSET) project. According to CEMASTEA (2008) and Ministry of Education Science and Technology (MoEST) (2005), the professional development uses a constructivist methodology to improve the performance in science with emphasis on Activity-focused methods, Student-centred activities, Experimenting and Improvisation (ASEI) through the Plan, Do, See and Improve (PDSI) approach; hence the ASEI/PDSI classroom practice innovation.

Fullan (2008) asserts that adopter commitment is the key variable in determining whether or not an innovation survives the implementation process, thus producing lasting changes in educational practices. There are various factors that would influence the science teachers' attitudes towards implementing the ASEI/PDSI classroom practices. The main ones are the attitudes of the change agents, and particularly those of the principals and the teachers. The perceived characteristics of the ASEI/PDSI innovation that is; how easy or difficult it is to use, the time factor in terms of lesson preparation, the implementation climate, facilities/equipment required and the accrued benefits - in this case the improved performance of the learners. In addition, the teachers' overall concerns and needs on the implementation of the innovation are part of it (Loucks – Horsley, 1996; Ndirangu and Nyagah, 2015; Ndirangu, 2006).

The Concerns Based Adoption Model (CBAM) according to George et al. (2014) alludes to the fact that change takes place in individuals. It also acknowledges that change is a process and that supporting implementers during change is critical for learning to take hold. Many education innovations focus on the needs of the learners while ignoring the needs of the teachers who are critical in the implementation where it matters most, the classroom (Fullan, 2007). Havelock and Huberman (1977) observed that when an innovation is introduced, the change agent perceives it differently from the users. The principal may view an innovation primarily in terms of resources, time tables and punctuality. The teacher, on the other hand, might view it in terms of job prospectus or status and. The parents and the general public may view it in terms of its implications on improved examination performance. The role of the principals, according to

SMASSE (2006a) is to support teachers where necessary, provide teaching and learning materials on time, and if science based - attending SMASSE INSET, and monitoring of classroom activities. Generally, the reception of the user system determines the success, or failure, of the implementation of an innovation (Hall and Hord, 2011).

Despite the ASEI/PDSI classroom practice intervention, there has been minimal change in the students' performance in sciences. The first cohort of teachers trained in 2003 and in 2007 had been in the field for well over 10 years. Yet the Kenya National Examination Council (KNEC) results still indicate that the majority of the grades scored (over 65%) by the students at the end of the secondary school examination were between D and E (KNEC, 2016).

An Organisation for Economic Co-operation and Development (OECD) (2009) study, Teaching and Learning International Survey (TALIS), covering over ten countries across the world found a significant relationship between teachers' beliefs and instructional practices. The constructivist beliefs are associated with more frequent uses of practices that aim at creating a stimulating, challenging and individually adapted learning environment supportive of students' constructive knowledge. According to the Republic of Kenya (2016), there is a need for teachers who are adequately prepared to implement science and mathematics curricula for the nation to achieve its Vision 2030 agenda.

Hypotheses of the study

The null hypotheses were:

Ho1: There is no significant relationship between the head teachers' attitude and the level of implementation of ASEI/PDSI classroom practices.
Ho2: There is no significant relationship between the teachers' attitude and the level implementation of ASEI/PDSI classroom practices.

LITERATURE REVIEW

This study adapted the Innovation Theory, which is also referred to as the Diffusion Theory. The proponent of the Diffusion Theory, Rogers (1995), defines diffusion as the process by which an innovation is adopted, and gains acceptance by individuals or members of an institution. Diffusion has four elements included within innovation which are; an idea, practice(s) or object(s) that is perceived as new by individuals or a group of adopters. In this study, ASEI/PDSI classroom practice is the innovation. The other elements are; communication channels, time and a social system - the latter is a set of interrelated units that are engaged in joint problem solving activities to accomplish a goal(s) (Rogers, 2004).

Marsh's (2001) points out that the theory offers a scientific approach to understanding the rate of adoption as well as factors which may lead to the rejection of an innovation. The simplicity of the Diffusion Theory may ironically be its strength; it is limited in explaining complex human systems. The theory may not explain the complex humans systems in relation to the implementation of the ASEI/PDSI classroom practices by the teachers but, it gives insight on the factors that influence the readiness of teachers' to implement this innovation in Kenya.

The SMASSE project uses the cascade system of INSET with two levels of training, one at the national level and the other at the district level. The national trainers train district key trainers, and district trainers train teachers in their respective districts. Further, the SMASSE project has four cycles, one for each level, of 10 working days annually. The curriculum of INSET is based on the findings of the needs assessments conducted for each district. The SMASSE INSET therefore, has four cycles and four themes, to cover the issues identified during the needs assessments.

Cycle one is on attitude; the sessions are used to enlighten the participants on the issues that strongly influence how they perceive and conduct their duties as teachers, and how learners perceive and react to their lessons. Cycle two is on 'hands-on' activities; it provides participants an opportunity to put into practice the principles of ASEI/PDSI classroom practices innovation. The trainees work in small groups where they prepare ASEI lesson plans, prepare practical lessons, improvise apparatus and materials and present sample lessons to their peers. Cycle three is on actualization; whose main focus is implementation of the ASEI/PDSI classroom practices in schools. Finally, cycle four is on monitoring and evaluation; where the SMASSE internal evaluation team evaluates the project on the basis of efficiency, effectiveness, sustainability, relevance and the impact on the student learning and achievement (CEMASTEA, 2008, SMASSE, 2006b).

According to Fullan (2008), the attitude stakeholders have towards an innovation is critical to its success. In this particular study, the attitudes that teachers, head teachers and students hold towards the ASEI/PDSI classroom practices have a significant impact on the quality of implementation of this innovation. Teachers' beliefs play an integral role in predicting human behaviour. Ajzen and Albarracin (2007) define beliefs as the perceptions of information concerning an object or an idea. A better understanding of teachers' beliefs, that inform their resistance to implement an innovation used in the classroom, may help in the development of professional training to address teachers' uneasiness and resistance related to instructional methodologies (Hall and Hord, 2011).

Simply put, beliefs are typically the catalyst for or impediment against individuals' engagement in specific behaviours, such as learner-centred pedagogy (Fishbein and Ajzen, 2010). For instance, if a teacher does not believe that the ASEI/PDSI classroom practices facilitates student learning, the teacher will probably not use this innovation in the classroom. In general, beliefs lead to action. However, in one study conducted by Nadelson et al. (2013), it was found that teachers described their instructional methodologies as learner-centred but observation of these teaching practices starkly contrasted with the beliefs; while the teachers professed learner-centred beliefs, they behaved in teacher-centred ways. Chen (2008) suggested that the challenges of classroom teaching often constrain the teachers' abilities to teach in ways that are aligned with their beliefs. Despite teachers' stated beliefs, this study suggested that teachers' actions were significantly influenced by classroom contexts.

This dissonance between beliefs and actions could result from the fact that what teachers' believe is at best in theory. In this case, learner-centred education does not always translate into action when faced with the reality of actually having to change their practice in order to implement those beliefs. The teachers concerns about what will happen when they are asked to actually implement an action may contribute to the disconnection between their beliefs and their actions in the classrooms. According to Green and Michelle (2013) epistemological beliefs may be domain or discipline specific. Either way these beliefs are relevant to understanding the educational strategies of both learners and teachers.

During the implementation of an innovation, individuals have concerns. Concerns are an individual's set of feelings, perceptions, preoccupations, thoughts, considerations, motivations, satisfactions, and frustrations, related to the target of innovation. Concerns towards objects or ideas have been linked to an individual's willingness to adopt classroom innovations. For example, ones concerns about their personal ability to implement an instructional practice may set up a contradiction that inhibits the individual from acting on positive beliefs about that instructional practice (George et al., 2014).

Beliefs and concerns can be used to predict behaviour (Fishbein and Ajzen, 2010). However, what is less clear is the impact of certain specific beliefs, such as learner-centred beliefs about teaching and learning, and concerns regarding one's ability to implement specific practices such as ASEI/PDSI classroom practices. Together, these variables may be a powerful influence on teacher behaviour. The lack of more than superficial or mechanical use of the ASEI/PDSI classroom practices on the part of many teachers may be related to a fundamental conflict between teachers' beliefs about the nature of teaching and learning. It may also be related to the teacher perceptions about the ways this learner-centred methodology fits into their beliefs, along with the concerns about the consequences of implementing ASEI/PDSI classroom practices in their classrooms.

According to Klein and Sorra (2003), innovation

implementation is so challenging that many adopting organizations and individuals fail to realize the optimal expected benefits of innovations. This is usually by reason of failure to successfully implement the innovation and not necessarily due to the failure of the innovation itself. Implementation is defined as "the process of gaining targeted organizational members' appropriate and committed use of an innovation" (p.1055).

Klein and Knight (2005) expanded the view of implementation by pointing out that if targeted organizational members use the new idea regularly, and in a consistent and committed manner, only then can one say that they have succeeded at implementation. The successful implementation of the ASEI/PDSI classroom practices depends on all the teachers using the knowledge and skills imparted during in-service training fully.

A number of challenges associated with innovation implementation have been well documented in literature. Klein and Knight (2005) and Klein and Sorra (2003) reviewed various issues of innovation implementation. First, problems of unreliability and deficiencies in the design of innovations based on digital technologies, such as computers and related software programmes hamper innovation implementation. Second, many new ideas demand end-users to acquire new knowledge and skills to effectively use such ideas - some targeted organizational members may find this process unpleasant or laborious.

Third, decisions to adopt organizational innovations are often made by high-ranking personnel without the participation of targeted organizational members. End-users may resist the actual use of such innovations because of the uncertainties associated with the innovation or because they are comfortable as they were and want to maintain their status quo.

Fourth, the usually expected benefits associated with innovation implementation, may be observable after a longer period of time, thereby casting shadows of doubt in the mind of the end users on the actual benefits and perceived observable results from using the innovation (Rogers, 2004). As noted by Klein and Knight (2005), organizations invest in innovations with the sole aim of realizing higher levels of performance or productivity therefore, the end-users and managers may experience undue panic where ensuring that existing levels of performance or productivity while implementing the innovation, are either maintained or improved. Klein and Knight (2005) further, observed that, this may be the case as the implementation of new ideas may not only be time consuming and expensive, but may also decrease performance especially during the early stages of the implementation process.

Fifth, poor innovation-value fit has been documented as one of the stumbling blocks to innovation implementation. Klein and Sorra (2003) defined innovation-value fit as "the extent to which targeted users perceive that the use

of the innovation will foster or, conversely, inhibit the fulfilment of their values" (p.1063). This is consistent with the perception of compatibility or the extent to which the innovation fits or aligns well with pre-existing values, previous experiences or ideas, and identified needs of the implementers (Rogers, 2004).

Sixth, Klein and Knight (2005) contended that apart from the innovation-value fit, as a facilitator of innovation implementation, the challenge for organizations is to establish a strong climate for innovation implementation. They described an organizational climate for innovation implementation as "targeted employees shared summary perceptions of the extent to which their use of a specific innovation is rewarded, supported, and expected within their organization" (p.1060). The concept of climate for implementation appears broad and subsumes numerous aspects associated with innovations, the provision of the following to end-users helps create a strong implementation climate:

1. Training to ensure skill acquisition
2. Post innovation continued support services
3. Adequate time for users to learn to use the innovation
4. Feedback on concerns and complaints
5. Incentives and disincentives for use and non-use, and
6. Access to the innovation (Klein et al., 2001).

In the absence of effective implementation, the benefits of innovation adoption are likely to be nil. Wu (1988) and Dylan (2007) on the other hand contends that it is necessary to deal with the 'how' and the 'what' of change in the process of examining the individual and collective settings. Constructivism is a theory of learning rather than of teaching, and there are some researchers who have raised doubt over its implementation (Brown and Adams, 2001).

Many researchers believe that the essential elements of effective constructivist teaching are still unknown. Again, there is also a disregard for a constructivist approach amongst some teachers, especially the veterans, who believe that the approach creates a chaotic and disruptive classroom environment. Many teachers thus lack a strong belief in the effectiveness of constructivist teaching methods in the classroom and are unlikely to use these practices. The study of Abbott and Fout (2003) completed by a research centre in Washington revealed that, out of a total of 669 classrooms observed in 34 schools, strong constructivist teaching was observed in only 17 per cent of the lessons. This study observed teachers lessons to determine whether they were using learner-centred methodologies in their teaching.

On the other hand, many teachers have a strong belief in constructivist practices and do their best to implement them, but they often lack administrative support (Haney and McArther, 2002). Many principals do not want to take the time or resources to reform programmes to include

constructivism. Teachers also complain that principals do not understand the need for financial support for hands-on manipulation in lieu of textbooks. Many head teachers view the constructivist classroom environment as chaotic and lacking teacher control. One may ask if the ASEI/PDSI classroom practices in secondary schools in Kenya do increase students' autonomy and control over their classroom learning situations. Fullan (2013) posits that teachers and students are learning partners in the new pedagogy.

METHODOLOGY

The study used a survey design methodology. It adopted the purposive, stratified random and simple random sampling procedures. To carry out the sampling process for the target population, the schools were categorised as high performing, medium and low performing schools, with regard to the Kenya Certificate of Secondary Education national examination mean scores. Stratified sampling based on this criterion identified 68 schools, whose head teachers participated in the study. Purposive sampling of 147 science teachers was carried out, targeting those who had attended the SMASSE in-service training in Nyeri County, Kenya. Simple random sampling was applied to select 16 key informants, namely the SMASSE Science sub-county trainers. The data were collected using questionnaires, interviews and a lesson observation schedule. The lessons were observed without giving the teachers prior notice. To enhance the validity of the instruments, a pilot study was conducted in 8 schools. The pilot sample was 10%, according to Mugenda (2008). The pilot study selected: 8 head teachers, 38 teachers, 5 district trainers and two lessons were observed. The reliability test was carried out using the Cronbach's Alpha (Kothari, 2004). The item analysis resulted in coefficients of internal reliability of 0.80 for the head teachers' questionnaire and 0.78 for the teachers' questionnaire. The instruments were therefore considered reliable for collecting data for the main study. The hypotheses were tested using the Chi-square statistic and the Fisher Exact Test.

RESULTS AND DISCUSSION

Analysis of the data collected from the field draws interpretations based on descriptive and inferential analysis. The main issues discussed include the following: background information of the respondents, responses to research questions and the testing of the two hypotheses of the study.

Background information of respondents

In order to gain understanding of the respondents involved in the study, each respondent was asked to indicate their personal data. The background data from the head teachers and teachers included their gender, professional qualifications, their experience, and the work load of the teachers. The data provided important information on the calibre of all the respondents involved in the study. The questionnaire return was 51 out of 68 for the head teachers (75.0%), and 147 out of 147 for

teachers (100.0%). The lessons observed were 15. Table 1 shows head teachers' and teachers' age by gender.

The data indicates that majority (68.5%) of the head teachers were male while only 31.4% were female. The data on the age of the head teacher indicate that most were in the age category of 40 to 49 years (64.7%), followed by age group 50 to 60 years (21.6%); and the lowest age bracket 30 to 39 years (13.9%). Most of the head teachers involved in this study were mature and majority may probably be in a leadership position for another ten years since the retirement age is 60. It is therefore important to involve them in the proper implementation of the innovation. The findings also indicate that majority (73.7%) of the science teachers were male, and 26.3% were female. This implies that there is gender disparity in the teaching of sciences.

With regard to the age of the teachers, the data shows that 41.4% were in the age bracket of 40 to 49 years. This was followed by age group 30 to 39 years with 35.2%, with the lower age bracket of 20 to 29 years at 15.8%. The older teachers in the age bracket of 50 to 60 were only 7.6%. Most of the science teachers involved in the study may be teaching for another ten years or more, thus continuing to influence science learning in schools. The teachers were also asked to indicate their teaching experience. The findings are presented in Table 2.

The results indicate that most of the teachers (42.7%) had a teaching experience of between 11 to 20 years. The data further indicated that 42.1% of the science teachers had a teaching experience of 1 to 10 years; while 15.2% had taught for between 21 and 30 years. This implies that teachers, involved in this study, are highly experienced in their areas of specialization, and many have had a chance to interact with the skills and knowledge acquired from the SMASSE in-service training for more than 10 years. According to the findings of a study conducted by Cassel and Vincent (2011), varied experiences of teachers shape their attitude about learning and teaching of mathematics and sciences. The teachers had other responsibilities other than teaching as indicated in Table 3.

The results indicate that a substantial number of the teachers involved in the study were Heads of Departments, that is 37.9%. This implies that they were familiar with the requirements of the ASEI/PDSI classroom practices and what should be implemented. The subject heads were 15.1% and the class teachers were 25.5%. Those involved in the SMASSE in-service training were 27 or 18.6% and were familiar with the ASEI/PDSI classroom practices skills and knowledge. This suggests that other than having heavy teaching loads, science teachers were engaged in other demanding responsibilities and this could interfere in their preparation of ASEI/PDSI lessons. The study also sought to find out the weekly teaching load of the science teachers, and the findings are represented in Table 4.

Many of the science teachers (43.5%) had a weekly

Table 1. Head teachers and teachers age by gender.

Age category (Years)	Head teachers		Teachers	
	Male	**Female**	**Male**	**Female**
20-29	-	-	8.9	6.9
30-39	11.8	2.0	25.5	9.8
40-49	43.1	21.6	32.4	8.9
50-60	13.7	n7.8	6.9	0.7
Total	68.6	31.4	73.7	26.3

n=196.

Table 2. Teaching experience of the teachers.

Years of teaching	Frequency	Percentage
1-10	*61*	42.1
11-20	*62*	42.7
21-30	*22*	15.2
Total	145	100.0

Table 3. Teachers' other responsibilities by gender.

Category	Male	Female	Total	Percentage
Deputy head teacher	6	1	7	4.8
Head of department	43	12	55	37.9
Subject head	15	7	22	15.1
Class teacher	24	13	37	25.5
SMASSE trainers	15	12	27	18.6

n=145.

Table 4. Teaching load of the science teachers.

Teaching load lesson per week	Frequency	Percentage	Cumulative
Less than 15	*2*	1.4	1.4
15-20	*16*	11.0	12.4
21-25	*63*	43.5	55.9
26-30	*62*	42.7	98.6
No lessons	*2*	1.4	100
Total	**145**	**100.0**	**100.0**

load of 21 to 25 lessons. The lightest load was 14 lessons, and the heaviest load was 30 lessons per week. The recommended maximum teaching load for secondary school teachers is 30 lessons per week. This implies that 62 or 42.7% of the science teachers have the recommended load of 26 to 30 lessons per week. However, they could be considered to have heavy loads because they also indicated that they have other duties other than teaching. Most schools have on average 35 lessons per week. This means that on average teachers have about 5 free lessons per week to prepare lessons, mark the students' work and attend to other duties

assigned to them. The respondents were asked to indicate whether they had attended the SMASSE in-service training, the roles they played, and to indicate the cycles they had attended. Result presented in Table 5 indicates the head teachers' roles in the SMASSE in-service training.

There were 22 head teachers or 43.1% who attended as trainees in Mathematics, Chemistry, Biology or Physics. Data also implies that 29 or 56.9% did not attend the teachers SMASSE In-service training. Amongst the head teachers involved in the study were 2 trainers, 3 centre organizers and 7 SMASSE in-service

Table 5. Head teachers' roles during the SMASSE INSET.

Responsibility	Total	Percentage
Trainees	22	43.1
Trainers	2	3.9
Centre Organizers	3	5.8
SMASSE INSET Organizers	8	15.7

n=51.

Table 6. Head teachers' attendance SMASSE INSET.

Attendance	Male	Female	Total	Percentage
Teachers INSET				
Yes	19	3	22	43.1
No	16	13	29	56.9
Heads INSET				
Yes	5	2	7	13.7
No	30	14	44	86.3

n=51.

Table 7. Teachers' attendance of SMASSE INSET's cycles.

Attendance		Frequency	Percentage
Cycle 1	Yes	119	83.2
	No	24	16.8
Cycle 2	Yes	120	83.9
	No	23	16.1
Cycle 3	Yes	113	79.0
	No	30	21.0
Cycle 4	Yes	117	81.8
	No	26	18.2

n=143, Missing 2.

training organizers. This implies the study had a representation of head teachers from the various categories of SMASSE in-service training activities. The head teachers' attendance of the two SMASSE INSETs; the teachers and the heads is presented in Table 6.

Results on head teachers' attendance of the teachers' SMASSE in-service training indicated that only 43.1% of the head teachers' involved in this study attended the teachers' SMASSE in-service training; while 56.9% had not attended. Those who attended the teachers SMASSE in-service training were mainly science oriented head teachers. Both the arts and the science oriented head teachers are also expected to attend the heads SMASSE in-service training which guides them on the monitoring and implementation of the ASEI/PDSI classroom practices.

The results further indicate that 7 or 13.7% of the head teachers attended, while 86.6% did not attend. This means that majority of the head teachers missed out on the opportunity of being trained on the SMASSE ASEI/PDSI classroom practices and what was required of them in order to support the implementation. Science teachers are expected to attend all the four cycles of the SMASSE in service training in one area of specialisation. If they fail to attend any of them, they are given an opportunity to attend the mop-up in-service training offered periodically. Table 7 presents the data of the teachers' attendance of SMASSE INSET cycles.

The data indicate that Cycle 1 was well attended; 83.2% of the teachers involved in this study attended and only 16.8% did not attend. It also indicates Cycle 2 as the best attended cycle by the science teachers, whereby 83.9% attended and 16.1% did not attend. The lowest teachers' attendance was in Cycle 3 at 79% and only 21% of the teachers involved in this study did not attend. Cycle 4 was attended by 81.8%; while 18.2% did not attend. Failure to attend all the in-service trainings implies that the science teachers have knowledge gaps about the ASEI/PDSI innovation and are therefore unlikely to use all its paradigms in the classroom.

This information on the overall attendance raises two concerns. First, the majority of the head teachers did not attend any of the SMASSE in-service trainings; implying that they do not have information on the innovation whose implementation they are supposed oversees. Over 86% of the head teachers did not attend the head teachers' forum that informs them on how to handle change during the implementation of innovations. Secondly, majority of the head teachers who had missed the in-service training were aged between 40 and 49 years of age, and are likely to be in leadership for another 20 years. Therefore, efforts should be made to ensure they attend the SMASSE in-service trainings to guarantee successful implementation of the ASEI/PDSI classroom practices.

Head teachers' attitudes towards the implementation of ASEI/PDSI classroom practices

The head teachers' questionnaire had several items to determine the attitudes of head teachers' towards the implementation of ASEI/PDSI classroom practices. It was developed using a Likert scale for each item as follows:

Strongly Agree = 5, Agree = 4, Undecided = 3, Disagree = 2 and Strongly Disagree = 1.

The response indicating the least favourable degree or a negative attitude towards the implementation of ASEI/PDSI classroom practices is given the least score of '1' and the most favourable or the positive attitude is given the highest score of '5'. The head teachers' instrument consisted of 24 statements related to their attitudes towards the implementation of ASEI/PDSI classroom practices. The score values were:

24 × 5 = 120, most favourable response possible (Positive attitude); 24 × 3 = 72 a neutral attitude; 24 x 1 = 24 most unfavourable attitude (Negative attitude)

The scores for the head teachers fall between 24 and 120. If a score is above 72 the head teacher is said to have a positive attitude towards the implementation of ASEI/PDSI classroom practices, a score below 72 means

a negative attitude towards its implementation and a score of exactly 72 is suggestive of a neutral attitude. These findings are presented in Table 8. The data indicates that most of the head teachers (56. 9%) had a negative attitude towards the implementation of ASEI/PDSI classroom practices and 39.2% had a positive attitude towards its implementation, while 3.9 % were neutral.

Hypothesis one

The study also hypothesized that there was no significant relationship between the head teachers' attitudes and the level of implementation of ASEI/PDSI classroom practices. The Chi-square test was used to establish the relationship between two variables, both of which were categorical in nature.

In this hypothesis, the researcher tested the alternative hypothesis that there was a relationship between the head teachers' attitudes and the level of implementation of the ASEI/PDSI classroom practices. The independent variable head teacher attitude was categorized as "positive" above 72, "negative" below 72 and "neutral" equal to 72. The dependant variable level of implementation was categorized as fully 3; partially 2 and not at all 1. The test was done for the three science subjects because the level of implementation was determined separately for each subject. The results of this test are presented in Table 9.

The data obtained indicated that the chi-square value is greater than the critical value for each of the science subjects at 1 degree of freedom, that is, Biology X^2 =72.35>66, Chemistry X^2 =69.38>66 and, Physics X^2 =67.03>66; meaning that they are significant. The conclusion would have been to reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between the head teachers' attitude and the level of implementation of the ASEI/PDSI classroom practices. However, the Fisher Exact Test (FET) was computed in addition to the Chi-square test because the contingency table consisted of cells where the expected number of frequencies was fewer than 5.

The Fisher Exact Test examines the significant deviation from the null hypothesis, in other words gives a probability value (p-value) which reflects the strength of the evidence against the null hypothesis. If the p-value is below 0.05, then the null hypothesis is rejected while a p-value above 0.05 provide weak evidence against the null hypothesis and therefore cannot be rejected. The Fisher Exact Test results for the relationship between the head teachers' attitudes and the level of implementation was Biology p-value 0.68 > 0.05, Chemistry p-value 0.56 > 0.05 and Physics p-value 0.55 > 0.05. The Fisher Exact Test p-values are not significant at the 5% level of significance as the p-values are greater than 0.05. When there is no significance, the null hypothesis cannot be

Table 8. Head teachers' attitudes towards the implementation of ASEI/PDSI.

Head teachers' attitude	Frequency	Percentage
Negative <72	29	56.9
Neutral 72	2	3.9
Positive >72	20	39.2
Total	**51**	**100**

Table 9. Chi-square results of head teachers' attitudes and the level of implementation.

Attitude	Undecided	Not at all	Partially	Fully	Total
Biology					
Negative	2	1	18	8	29
Neutral	0	0	1	1	2
Positive	4	0	11	5	20
Total	6	1	30	14	51
(X^2 Value = 72.35, critical value =66, df = 1, Pr = 0.28)					
Chemistry					
Negative	2	1	21	5	30
Neutral	0	0	2	0	2
Positive	4	1	11	4	20
Total	6	2	34	9	52
(X^2 Value =69.38, critical value = 66, df = 1, Pr = 0.364)					
Physics					
Negative	2	1	16	10	29
Neutral	0	1	1	1	3
Positive	6	1	10	3	20
Total	8	3	27	14	52
(X^2 Value = 67.03, critical value = 66, df = 1, Pr = 0.44)					

rejected or accepted.

It means that the alternative hypothesis, that if the head teachers had a positive attitude towards implementation of the ASEI/PDSI classroom, they could influence its implementation, was not accepted. It implies the negative attitude of majority of the head teachers cannot conclusively be attributed to determining the level of implementation of the ASEI/PDSI classroom practices; the null hypothesis was therefore neither accepted nor rejected.

However, it nevertheless suggests that if the head teachers had a positive attitude towards the innovation, they would have been keener in their supervision. The findings on the supervision of the head teachers in relation to the implementation of the ASEI/PDSI indicated that they were not supportive of its implementation in the classroom. This means that their negative attitude has a bearing on the implementation of the ASEI/PDSI innovation.

Teachers' attitudes towards the implementation of ASEI/PDSI classroom practices

To establish whether there is a significant relationship between the teachers' attitudes and the level of implementation of ASEI/PDSI classroom practices, the teachers answered several questions on their attitudes towards its implementation. Just like the head teacher attitude scale, in order to obtain the dividing point between negative attitude and positive attitude, computation was done. The teachers' instrument consisted of 22 statements related to attitude towards the implementation of ASEI/PDSI classroom practices the score values were;

22 x 5 = 110 most favourable response possible (Positive attitude); 22 x 3 = 66 a neutral attitude; 22 x 1 = 22 most unfavourable attitude (Negative attitude)

If a score was above 66, the head teacher was said to

Table 10. Teachers' attitudes towards implementation of ASEI/PDSI.

Teacher's attitude	Frequency	Percentage
Negative <66	26	17.9
Neutral 66	5	3.5
Positive >66	114	78.6
Total	**145**	**100**

have a positive attitude towards the implementation of ASEI/PDSI classroom practices. A score below 66 meant a negative attitude towards its implementation and a score of exactly 66 was suggestive of a neutral attitude. The results are indicated in Table 10. The data indicates that a majority of the head teachers (78.6%) had a positive attitude towards the implementation of ASEI/PDSI classroom practices; while 17.9% had negative attitude towards its implementation and 3.5% were neutral. However most of the teachers who had a positive attitude were clustered around the score slightly above 67%.

Hypothesis two

The study hypothesized that there was no significant relationship between the teachers' attitudes, and the level of implementation of ASEI/PDSI classroom practices. In this hypothesis, the teachers' attitudes towards the ASEI/PDSI implementation were categorized as (positive) above 66, (negative) below 66 and, (neutral) equal to 66. The level of implementation was categorized into three; fully = 3, partially = 2 and not at all = 1. The chi- square compared the teachers' attitudes to the level of implementation. The chi-square values from the teachers' attitudes towards the implementation were calculated for the teachers of each of the science subjects. The results are indicated in Table 11.

Results indicate that the chi-square value is greater than the critical value at one degree of freedom - Biology $\chi^2=55.3429>54$, Chemistry $\chi^2=54.4581>48$, X^2 and, Physics $\chi^2=69.4286>58$ meaning that they are significant. The conclusion made was to reject the null hypothesis and accept the alternative hypothesis that there is a significant relationship between the teachers' attitudes and the level of implementation of the ASEI/PDSI classroom practices. It means that if the teachers' maintain their positive attitude towards ASEI/PDSI classroom, they could influence the implementation of the ASEI/PDSI classroom practices.

However, the scores in the table were less than 5; therefore the Fisher Exact Test was carried out. The Fisher Exact Test results for the relationship between the teachers' attitudes and the level of implementation was Biology p-value 0.03 < 0.05, Chemistry p-value 0.17 > 0.05 and Physics p-value 0.15 > 0.05. The Fisher Exact

Test p-values are not significant at the 5% level of significance as the p-values are greater than 0.05 for Chemistry and Physics but are significant for Biology, where the p-value was less than the 0.05 significance level. The null hypothesis was therefore rejected and the alternative hypothesis accepted for Biology. However, the null hypothesis was neither accepted nor rejected for the teachers' attitudes towards Chemistry and Physics.

In this study, the positive attitude of the teachers towards ASEI/PDSI classroom practices can influence its implementation from partial to full implementation of this innovation. The positive attitude of majority of the teachers towards the implementation of the ASEI/PDSI implies that the level of implementation of the ASEI/PDSI can improve from partial to full implementation. However, there is still a group of teachers who have a negative attitude towards the implementation of ASEI/PDSI classroom practices. According to Fullan (2007), a critical mass of users for an innovation has to be met if the implementation is referred to as successful. The negative attitude of this minority can therefore not be overlooked. The negative attitude of this group also suggests that there are learners who will not get the benefits of the ASEI/PDSI classroom practices if this group of teachers fails to implement these practices during teaching and learning.

Other results from the research finding indicate that, the negative attitude towards the ASEI/PDSI classroom practices seems to be rooted in the in-service programme itself. According to the interviews conducted with district trainers, it was indicative that they are facing challenges in disseminating the information to the trainees. The success of the training, according to Fullan (2008), depends on the full participation of the trainees of which these district trainers did not get.

The ASEI/PDSI paradigm is a learner-centred pedagogy which relies on the active participation of its users. When the training adopts the same technique, it gives the trainees a chance to experience its constructs. During the interviews conducted with the teachers, head teachers and the district trainers, it was revealed that the real problems were as follows:

1. The teachers were protesting because the SMASSE INSET was organized during the holidays yet, they were not given any incentives such as per diem. Some felt the training interfered with their tuition activities which

Table 11. Chi-square results of teachers' attitudes and the level of implementation.

Attitude	Not at all	Partially	Fully	Total
Biology				
Negative	3	5	1	9
Neutral	1	0	0	1
Positive	3	30	9	42
Total	**7**	**35**	**10**	**52**

(X^2 Value = 55.3429, Critical Value =54, df = 1, Pr = 0.424)

Chemistry				
Negative	1	9	0	10
Neutral	2	2	0	4
Positive	5	36	7	48
Total	**8**	**47**	**7**	**62**

(X^2 Value = 54.4581, Critical Value = 48, df = 1 Pr = 0.242)

Physics				
Negative	2	8	0	10
Neutral	1	1	0	2
Positive	3	33	6	42
Total	6	42	6	54

(X^2 Value = 69.4286, Critical Value = 58, df = 1 Pr = 0.145)

supplements their earnings.
2. The conditions of training were harsh including sleeping in dormitories and the quality of the food offered was not adequate. Some suggested that the in-service training should be offered in hotels as in the case for civil servants and other professional organizations.
3. Some of them indicated that the training should be offered by facilitators from higher learning institutions rather than fellow teachers from the secondary schools.
4. Some of the teachers strongly felt that the ASEI/PDSI classroom practices should be taught during pre-service training, arguing that these were the same concepts they were taught during their teacher training.

In a study by Waititu and Orado (2009) on how physics teachers' attitudes affects the reality in the classroom, a lesson was observed of a teacher who strongly believed in learner-centred pedagogy only to discover that it was quite the opposite. The teacher did the talking 90% of the time. Where an activity was prepared for the learners, the students listened to the instructions 50% of the time leaving them with very little time to carry out the experiments and draw conclusions. This may explain the partial implementation of the ASEI/PDSI classroom practices in this study. Studies by Dylaon (2007), Cuban (2009) and Yero (2002) have revealed a high degree of agreed teachers' attitudes and their practice of teaching where as others have identified inconsistent. This study found discrepancies between teachers' positive attitudes towards ASEI/PDSI classroom practices and their level of

implementation of this innovation. In this study 78% of the teachers were found to have a positive attitude but only 5% were implementing it fully and 65% were implementing ASEI/PDSI classroom practices partially. The conclusion is that there is a relationship between the attitude of the teachers and the level of implementation of ASEI/PDSI classroom practices. However, the study found that the head teachers' attitudes do not influence the teachers' implementation of the innovation.

Conclusion

Based on the findings, the level of implementation of the ASEI/PDSI classroom practices in the public secondary schools is partial, and the conclusion is that the implementation of this innovation has not been successful. The study also concluded that the most significant variable influencing the level of implementation of the ASEI/PDSI classroom practices was the attitude of the teachers. However, there was a dissonance between the majority of the science teachers' positive attitudes towards the innovation and their level of implementation. The study further concluded that the negative attitude of the head teachers towards the implementation of the ASEI/PDSI classroom practices and them missing the SMASSE in-service training has had an indirect bearing on the teachers' level of implementing the innovation. This is because teachers lack a supportive administrative environment to implement the ASEI/PDSI classroom

practices.

RECOMMENDATIONS

Based on the findings, the study therefore recommends that first, since the level of implementation was found to be related to the teachers' and head teachers' attitudes towards the innovation; the national SMASSE inset should have strategies to bring on board those who still have a negative attitude. This is because the success of the implementation is deemed effective when the majority or all the implementers are using it fully. Secondly, the head teachers in the SMASSE in-service training should be involved from the onset, so that they can be aware of the new skills acquired by the teachers. The government should put in place a clear policy on the head teachers' roles in innovation implementation and a plan to develop their skills on change issues. This will give them confidence as they oversee the implementation of the innovations in the institutions.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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Full Length Research Paper

Effects of the types of error, proficiency level of the learners and nature of the recasts on the uptake of learners

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This current study examined the effects of the type of errors learners make (that is, phonological, lexical and grammar), proficiency level of the learners (that is, A1, A2, B1, B2 and C1) and nature of the recasts (that is, long and short) on the uptake of the learners. The data of this study came from the video-recordings of A1, A2, B1, B2 and C1-level of Turkish as a Second Language (TSL) classes. 60-h data have been transcribed and analyzed by the researchers. Here, qualitative methods of data collection was employed in this multi-case research along with quantitative methods of data analysis, when necessary, to examine the relations between and among the constructs. Analysis of the study revealed that the learners had a higher percentage of uptake rate against phonological errors (with significant difference); C1 level learners had the highest percentage of the uptake rate (with significant difference) and long recasts yielded a higher percentage of the uptake (but with no significant difference between recast types). Thereafter, findings of this research are compared with those of other prominent studies.

Key words: Recast, corrective feedback, error correction, learner uptake, Turkish as a Second Language (TSL)

INTRODUCTION

The effectiveness of corrective feedback on learners' interlanguage development has been a major issue of investigation in the recent second language acquisition research. Even though many researchers acknowledge the necessity of positive evidence for language acquisition (Krashen, 1981; Schwartz, 1993; Truscott, 2007), it is believed that there is also a need for negative

evidence, in the form of corrective feedback, to make learners notice the problematic aspects of their utterances (Long, 1996; White, 1991). When such focus-on-form takes place during interaction, learners not only pay attention to linguistic form, but form-meaning connections will also take place (Long, 1991).

Corrective feedback (CF) is defined as "responses to

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learner utterances containing an error" (Ellis, 2006: 28) or as "responses to a learner's non-target-like L2 production" (Li, 2010: 309).

Schmidt (1990, 2001) opines hypothesis is the theory on which the role of corrective feedback is grounded. He suggests that the acquisition of a second language (L2) is a conscious process and supplying corrective feedback is one way to trigger the notice of language forms. With that theoretical background provided, many different descriptive (Doughty, 1994; Lyster and Ranta, 1997; Sheen, 2004) and experimental studies (Doughty and Varela, 1998; Lyster, 2004) were carried out both in classroom and laboratory settings, and more recent studies also focused on CF as a part of Computer Mediated Communication (CMC) research (Iwasaki and Oliver, 2003; Loewen and Erlam, 2006; Yilmaz and Yuksel, 2011). One of the most commonly studied aspects of CF-related research is on the effectiveness of *recasts* as a form of oral corrective feedback. A 'recast' refers to "a reformulation of the learner's erroneous utterance that corrects all or part of the learner's utterance and is embedded in the continuing discourse" (Sheen, 2011: 2). Recasts have been studied extensively (Doughty and Varela, 1998; Ellis et al., 2006; Lyster, 2004; Nabei and Swain, 2002) because: a) they are very frequent in classrooms; b) they are considered to be implicit, and thus may not always successfully induce learner notice; and c) they provide both positive (that is, input) and potentially (if noticed) negative feedback (Sheen, 2011: 57). In the related literature, recasts were mainly compared and contrasted with other forms of corrective feedback such as prompts (Ammar and Spada, 2006; Yang and Lyster, 2010) and metalinguistic feedback (Carroll and Swain, 1993; Ellis et al., 2006; Lyster, 2004; Sheen, 2007) and the findings of the studies suggested that prompts are more effective than recasts and explicit CF is more effective than implicit CF (Ellis et al., 2006). Another aspect of recasts under investigation is whether it leads to learner uptake or not, but the studies led to conflicting results. In a seminal study, Lyster and Ranta (1997) found out that recasts were the most common type of CF in French immersion lessons; however, they produced the least amount of uptake. Panova and Lyster (2002), in their study carried out in an adult classroom in Canada, produced similar results to those of Lyster and Ranta (1997). On the other hand, Ellis et al. (2001), in their study in intensive adult ESL classrooms in New Zealand, found out that recasts were the most common type of corrective feedback and they led to a high level of uptake.

Turkish as a second language (TSL) context

In addition to its strategic geographic location as a bridge between two continents; namely, Asia and Europe, Turkey's status as a candidate country for the European Union makes this country an attraction for students taking part in different programs such as Erasmus, Socrates, Leonardo, etc. Thanks to this new status, a need to teach Turkish language to foreigners has appeared in recent years. Taking this need into account, many universities and private institutions are working collaboratively to develop programs teaching Turkish to foreigners. Since the number of foreign students attending Turkish universities is on the rise, language teaching practitioners and materials developers have taken part in many new projects, and some important universities in Turkey have started M.A and PhD programs on this recently popular field.

Even though TSL, as a field of study, has gained popularity in recent years, a lot of studies carried out are related to the use of different methods to teach the grammar and vocabulary of Turkish (Apaydin, 2007; Barin, 1992; Yayli, 2004), materials and activities for Turkish in TSL classes (Dilek, 1995; Diliduzgun, 1995; Kucukler, 2010; Ozdemir, 2010; Top et al., 2015; Zengin, 1995) and individual differences (Eker, 2010). However, the number of studies dealing with the classroom discourse-based studies related to TSL classes is very limited (Fidan, 2015; Inan and Fidan, 2012; Yilmaz and Yuksel, 2011). It is believed that this study is going to contribute to the related literature with its large database and focus on different aspects of the corrective feedback patterns taking place in five different levels.

Research questions

This study aimed to answer the following research questions:

(1) What type of errors do the A1, A2, B1, B2 and C1 level TSL learners make and what are the effects of the error type on the uptake of the learners in TSL classrooms?
(2) Is there a relationship between the proficiency level and uptake of the learners?
(3) Is there a relationship between the nature of the recasts (that is, long and short) and uptake of the learners?

METHODS

The setting and participants

The current study was carried out at two foreign language centers of two state universities in the Northwestern and Western part of Turkey. The participants were A1, A2, B1, B2 and C1 level of learners (aged from 18 to 27 years) who were learning Turkish as a second language (TSL). Native languages and the ethnic backgrounds of the participants varied (such as French, Arabic, Uighur, Persian, Mongolian, Somalian, Egyptian, Indonesian). The total number of learners who signed the consent forms were 94 in five different classes; however participants of the classes changed from week to week in the recordings. The instructors of the classes (aged from 23 to 34 years) were all native speakers of Turkish who

Table 1. The number of recorded lessons from each level of TSL courses.

Proficiency level	Recorded lessons
A1	12
A2	12
B1	12
B2	12
C1	12

graduated from Departments of Turkish Education or Linguistics. They all had the experience in teaching Turkish for at least five years at the time of the study (ranging between six years to 12 years).

Procedure

We used qualitative methods of data collection in this multi-case study. The qualitative nature of the study was very important because the aim of this research was to document, examine, and analyse naturally occurring data at two foreign language centers of two state universities in a TSL setting. We also used quantitative methods of data analysis, when necessary, to examine the relations between and among the constructs. Before the data collection process, the researcher obtained the Ethical Committee approval from Kocaeli University, and permission to access the two language centers from the university administrations. One week before the data collection, the participants taking part in the study signed consent forms and agreed to take part in the study. During the data collection, camcorders (Sony HDR-PJ260) were placed with caution in order to be able to catch the voices of the teachers and students well. A total of 60 h of video recordings from all levels (12 h from each level) of TSL classes was obtained. The researchers played an active role during the data collection process but did not participate in the development of lessons while making the recordings. The first two hours of the recordings have been excluded from the database because of some possible feelings of discomfort of students and teachers as they were not used to being recorded during their lessons. Table 1 indicates the number of recorded lessons from each level.

After collecting the data, the following step has to do with transcription of the recordings. The researchers transcribed all videos verbatim based on the coding scheme prepared before the recordings. The personal information of the participants was removed and the researchers renamed the participants. Afterwards, the transcriptions were controlled and coded on the basis of Yuksel (2007). Thanks to this coding process, it was possible to follow turn-takings, feedbacks, and uptakes of the learners.

Interrater reliability

In order to ensure the reliability of the findings, a randomly-selected part of the data collected was coded by 4 different raters (including the researchers carrying out this study). There was an external rater who helped the researchers in the coding process. He was an Associate Professor of Turkish Education who had been teaching Turkish as a second language for more than 10 years at the time of the codings. Ten percent of the data was selected randomly for the external rater. Before the process of reliability measurement started, a guide explaining the classifications and analyses of the data was prepared. The external rater was asked to code the selected data according to the guideline provided. The results of interrater reliability revealed that there was 94% consistency in the

coding of the types of errors, 96% consistency in the types of the recasts and 89% consistency in the coding of the uptakes.

Only spoken language is considered throughout this study. Written corrective feedback types and uptakes are beyond the scope of this study. On the other hand, the analysis was limited with the recasts of teachers. Other types of corrective feedbacks were not analyzed due to the scope of the present study.

RESULTS

The current study examined the different elements of classroom talk (for example, types of the errors made, nature of recasts and uptake of learners) in five TSL classes with different proficiency levels, to explore the dynamics of discourse and shed light on what is going on in TSL classes.

The types of learner errors according to different proficiency levels

To find out the relationship between the types of errors made by the learners in different proficiency levels and uptake, the specific types of learner errors were tallied as presented in Table 2.

As illustrated in Table 2, the learners in five classes made a total of 1831 errors during the recordings. Out of these 1831 errors, 883 of them were phonological errors (48%), 513 were grammatical errors (28%) and 362 were lexical errors (20%). Table 2 also presents the errors made by learners in different proficiency levels. According to the findings of this research, A1 level learners made the highest number of errors (n=549), followed by A2 (n=421) and B1 (n=359). As the proficiency level of the learners increased, the number of the errors decreased.

The effects of the types of error learners made and proficiency level on the uptake of learners

As a second issue, we focused on the effects of the types of learner errors and proficiency level of the learner on the uptake. The numbers and percentages are provided in Table 3.

As portrayed in Table 3, the phonological errors yielded

Table 2. The types of the learner errors according to different proficiency levels.

Type of the error proficiency level	Grammatical errors	Lexical errors	Phonological errors	Other errors	Total
A1	175	112	245	17	549
A2	110	84	204	23	421
B1	120	47	183	9	359
B2	80	74	147	16	317
C1	28	45	104	8	185
Total	513 (28%)	362 (20%)	883 (48%)	73 (4%)	1831

Table 3. The effects of type of the error learners made and proficiency level on the uptake of learners.

Type of error	Grammatical			Lexical			Phonological			Other		
Level	Error	Uptake	%	Error	Uptake	%	Error	Uptake	%	Error	Uptake	%
A1	175	97	55	112	48	43	245	152	62	17	7	41
A2	110	56	51	84	36	43	204	124	61	23	11	48
B1	120	53	44	47	27	57	183	102	56	9	3	33
B2	80	42	53	74	34	46	147	75	51	16	8	50
C1	28	22	79	45	32	71	104	74	71	8	4	50
Total	513	270	53	362	177	49	883	527	60	73	33	45

Table 4. The relationship between proficiency level and uptake based on Pearson's chi-square tests.

Parameter	Value	Asymp. Sig. (2-sided)
Pearson Chi-Square	21,536[a]	0.000
N of Valid Cases	502	

the highest percentage (60%) of the uptake rate. It has also been observed that 53% of the grammatical errors and 49% of the lexical errors yielded uptake sequences.

To observe the effects of the type of learners' error and uptake, Pearson's chi square test was conducted (Table 4). The analyis revealed that there was a significant relationship when all proficiency levels were examined together, according to chi-squared results (Asymp. Sig. (2-sided)=.000).

When the relationship between the type of learner errors and proficiency level of the learners was specifically examined, it was observed that there was a statistically significant relationship among some proficiency groups. Table 5 illustrates the results of the Pearson's chi squared tests.

This study was specifically interested in the relationship between proficiency level of our learners and uptake rate of the errors, and the ratios for it were calculated (Table 6).

As Table 6 demonstrates, C1 level learners had the highest ratio of the uptake (71%) followed by A1 (55%) and A2 (54%) level learners. B2 level learners had the lowest ratio (50%) and the overall uptake ratio was 55%.

Also, the relationship between proficiency level and uptake in details was examined (Table 7), and observed that C1 level learners were significantly better than any other group of learners in the ratios of uptake.

The effects of nature of the recasts on the uptake of learners

The instructors of the TSL courses provided different forms of corrected feedback to the errors of the learners. Table 8 illustrates the types of corrective feedback given by the instructors.

As seen in Table 8, the recasts had the highest frequency among different feedback types (n=497). Recasts were also the most common type in all proficiency levels. After recasts, the instructors used explicit correction (n=133) and elicitation (n=123) in feedback moves. The least commonly used type of the corrective feedback was metalinguistic feedback (n=49).

Amongst motivations for this study was the examination of the relationship between the type of the recasts (that is, long vs. short) on the uptake of the learners. With this

Table 5. Relationship between the learners' errors (specifically) and uptake based on Pearson's chi-square tests.

Proficiency level	Grammar		Lexical		Phonological	
	Value	Asymp. Sig. (2-sided)	Value	Asymp. Sig. (2-sided)	Value	Asymp. Sig. (2-sided)
A1- C1	5,330[a]	0.021	10,254[a]	0.001	2,657[a]	0.103
A2- C1	6,950[a]	0.008	9,384[a]	0.002	3,226[a]	0.72
B1- C1	10,751[a]	0.001	1,866[a]	0.172	6,645[a]	0.1
B2- C1	5,839[a]	0.016	7,174[a]	0.007	10,235[a]	0.01

Table 6. Numbers and percentages of uptake according to the proficiency level of the learners.

Proficiency level	Error	Uptake	%
A1	549	304	55
A2	421	227	54
B1	359	185	52
B2	317	159	50
C1	185	132	71
Total	1831	1007	55

Table 7. The comparison of proficiency levels with C1 level based on uptake according to Pearson's chi-square tests.

Proficiency level	Value	Asymp. Sig. (2-sided)
A1- C1	14,648[a]	0.000
A2- C1	16,175[a]	0.000
B1- C1	19,722[a]	0.000
B2- C1	21,536[a]	0.000

Table 8. Types of the corrected feedback provided by the instructors in different proficiency levels.

Feedback type proficiency level	Explicit correction	Recast	Clarification request	Metalinguistic feedback	Repetition	Elicitation
A1	53	161	42	14	28	64
A2	31	94	18	11	25	22
B1	28	116	20	9	32	15
B2	17	84	22	13	25	18
C1	4	42	11	2	5	4
Total	133	497	113	49	115	123

aim in mind, the frequencies and percentages of the types of recasts have been prepared.

As shown in Table 9, there were a total of 497 instances of recasts, and long recasts (n=273) were observed more than shorter ones (n=224). When the ratio of uptake was analyzed, it was observed that long recasts (60%) yielded a higher percentage of uptake compared to short recasts (49%). Long recasts led to higher ratios in all proficiency levels except C1, where the learners had a very high rate of uptake (73%) towards short recasts.

When the relationship between type of recasts and uptake was examined, the resultant chi-squared analysis revealed no significant relationship (Table 10).

DISCUSSION

This classroom-based study examined the discourse of the TSL classes offered in two public universities in Turkey. Specifically, this research examined the effects of the types of error learners make (that is, phonological,

Table 9. The frequencies and percentages of the types of recasts and their uptake.

Proficiency level	Short recasts			Long recasts			Total recasts
	Frequency	Uptake	%	Frequency	Uptake	%	
A1	74	33	45	87	51	59	161
A2	43	21	49	51	34	67	94
B1	55	23	42	61	32	52	116
B2	37	21	57	47	29	62	84
C1	15	11	73	27	17	63	42
Total	224	109	49	273	163	60	497

Table 10. Chi-square test results for the relationship between the type of the recast and uptake.

Parameter	Value	df	Asymp. Sig. (2-sided)
Pearson chi-square	6,147[a]	4	0.188
N of valid cases	224		

lexical and grammatical), proficiency level of the learners (that is, A1, A2, B1, B2 and C1) and the nature of the recasts (that is, long and short) on the uptake of the learners. The participants were students from A1, A2, B1, B2 and C1-level TSL classes.

Previous research on TSL classes mostly focused on some pedagogical issues such as the use of different methods to teach the grammar and vocabulary of Turkish (Apaydin, 2007; Barin, 1992; Yayli, 2004), materials and activities for Turkish in TSL classes (Dilek, 1995; Diliduzgun, 1995; Kucukler, 2010; Ozdemir, 2010; Top et al., 2015; Zengin, 1995) and individual differences (Eker, 2010) and only few studies focused on discourse and/or corrective feedback patterns of these TSL classes namely, Fidan (2015), Inan and Fidan (2012) and Yilmaz and Yuksel (2011). The Study conducted by Fidan (2015) focused on corrective feedback patterns and preferences of TSL learners and classes and found that learners want their errors to be corrected and they mostly prefer immediate teacher correction. In another study, Yilmaz and Yuksel examined the relative effects of communication mode, salience and recasts in an experimental study. To the best of our knowledge, no other study examined the learner errors in TSL classes descriptively; moreover, no previous research focused on the relationship between the types of errors learners make, proficiency level of the learners, and uptake.

In terms of the relationship between the types of recasts and uptake, Sheen (2006) found that shorter recasts tend to have a higher rate of uptake. In a different study Philp (2003) found that shorter recasts result in noticing with a more accurate focus. However, in this study, except for learners of C1 proficiency level, the uptake ratio was higher for long recast; but there was no significant difference.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Educational Research and Reviews

Full Length Research Paper

Teacher opinions on Ministry of National Education 2002, 2006, and 2013 preschool education curricula in Turkey*

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This study was aimed to make a historical review by collecting and comparing teachers' opinions on target-behaviors/learning-objectives outcomes, content, plans, activities, practices and assessment of the Ministry of National Education (MoNE), Turkey 2002, 2006, and 2013 preschool education curricula (PEC) in six categories. The sample group of the study was selected by easily accessible technique from eight districts of Ankara province. This includes a total of 40 teachers. The data collection tools of the study were semi-structured "Teacher Interview Form" and teachers' "Personal Information Form". In this study, content analysis was carried out by using interview technique from qualitative research methods. As a result of the study, it was determined that preschool teachers tend to regard preschool education curricula as becoming more effective, child-centered, easier to implement, teacher-guided, with active participation of the children. In the vast majority of teacher opinions on MoNE 2002 PEC, it is reported that the objectives of curriculum are appropriate for children and these objectives can be acquired by children. The practice category of the MoNE 2002, 2006 and 2013 curricula recommends that the practices are child-centered, the teacher serves as a moderator during activities, the activities are implementable and easy, and it is an actively participated curriculum.

Key words: Preschool education, curriculum, curricula, preschool education curriculum.

INTRODUCTION

Preschool education is an education process that includes all the experiences of children starting from their birth to the time they go to elementary school (Oktay, 2005). Preschool period creates a strong background in

developing social, emotional, physical, language and cognitive development potentials of children and supports their holistic development (August, 2008). In order for children to grow up and develop in a healthy way within the holistic development sense, it is of importance that they attain various experiences (Blakemore and Frith, 2005). In this sense, children development in the process of growing up and learning through experiences could bring their capacities to the highest level (Goodwin, 2008). According to Albrecht and Miller (2004), the children in 0-6 age range, which is called preschool period, grow up and develop rapidly; their interest areas change rapidly and they are affected by the children around them. In this sense, the education curricula that will encourage the development, growth and learning of children at this age range are of great importance.

As Melendez et al. (2000) stated, features such as consistency, general and systematic learning, depth, appropriateness, balance, developmental appropriateness and flexibility should be emphasized when designing a qualified preschool education curriculum. In this regard, it is of great importance to design systematic, qualified, flexible, consistent and child-centered education curricula. Preschool education curricula are the organized educational frameworks or structures that have their own general and specific objectives and learning outcomes. These curricula, in which learning takes place, include the activities used by the teacher in order to achieve these objectives during the day. The aim of preschool education curriculum is to ensure healthy development of children and achievement of skills necessary for their future (Hirsh, 2004: 5). The nature and place of curriculum content in early childhood education have remained contentious, specifically the extent to which young children can and should engage with the subject matter, concepts, and skills. Furthermore, learning processes have been viewed as more important than either content or outcomes (Wood, 2014). National Association for the Education of Young Children (NAEYC) has determined the principles for appropriate developmental curricula. These principles includes considering all developmental characteristics of the child, building the learning process on children's knowledge and experiences, allowing children to reflect their own culture, including observable and developmental characteristics appropriate for children's skills, and being able to integrate technological practices and teaching strategies in curriculum practices (Catron and Allen, 2003: 158-159).

It is seen in related literature that the contemporary approaches effective in preschool education today are child-centered approaches. These approaches require putting the interests, needs and expectations of children at the forefront and introducing different activities and learning experiences as far as possible, in order for them

to realize their own interests, skills and competence (Oktay, 2005). In Europe, which is the pioneer of preschool education, the focus of preschool education is on contributing to the social and emotional development of children. The basic learning areas in Finland preschool education curricula are language and interaction, mathematics, ethic and philosophy, environmental and natural studies, health, physical and motor development and art and culture (Eurydice, 2016). Preschool education curricula in Japan are developed on play-based learning and volunteer works are emphasized in order to achieve the objectives of preschool education curricula. These curricula adopt a holistic approach and attempt to ensure that children can express themselves, have high self-confidence, curious, and are both physically and mentally healthy (http://www.ibe.unesco.org/Japan). In the United States of America, drama, art, music and game activities are included in preschool education curricula as well as the activities for encouraging physical and language development of children (Güven and Efe-Azkeskin, 2012). In Russia, it is expected that the content of preschool education curriculum will cover all developmental areas including social, individual, mental, physical, artistic and aesthetic areas (World Data on Education, 2010/2011a,b,c). MoNe 2013 Preschool Education Curriculum in Turkey includes field trips and activities for Turkish, Art, Drama, Music, Movement, Play, Science, Mathematics and Preparing for Reading-Writing. It is seen that this curriculum is a child-centered, flexible, spiral, play based and eclectic curriculum and it aims at developing creativity and all developmental areas of the child (MoNE, 2013).

Different approaches and models are used in preschool education curricula in the world and Turkey. Head Start curriculum, which is widely used in United States of America, handle the social, emotional, physical and cognitive development of children from low-income families as an inseparable whole by encouraging their development and learning (Roopnarine and Johnson, 2013). On the other hand, the main objectives of High Scope curriculum are to support children's skills through active learning, to ensure that they take their own decisions and responsibilities and to help children acquire life-long learning habits through plan-do-assess strategy (Roopnarine and Johnson, 2013). According to Montessori approach, learning is a holistic process and play is the most ideal tool for children to learn. Children are both workers and producers (Isaacs, 2007). According to Reggio Emilia approach, children learn in a warm environment and learning occurs thanks to the rich relationships and interactions they have established with the adults and peers around them (MacNaughton and Williams, 2004). Waldorf and Montessori emphasize that child goes through a spiritual development as well as the

physical development and his/her spiritual development should be encouraged (cited in Ekici, 2015). Te Whariki curriculum in New Zeeland is a national curriculum that promotes dual culture and is designed to protect children's ethnic cultures. This curriculum focuses on four main principles including "strengthening, holistic development, family and society, relationships" (World Data on Education, 2010a,b,c).

Placing the required amount of importance on a child's learning and development through PEC in preschool period will also have an impact on the child's adaptation and academic achievement in elementary school. In this regard, a child who experienced a qualified early childhood period will also be more likely to attend school, be successful in school and contribute to the community. The Preschool Education Curricula previously and currently implemented in Turkey are MoNE 1989, 1994, 2002, 2006, and 2013 PEC. While PEC in 1994 and 2002 was designed by adopting a behaviorist approach, MoNE 2006 PEC was designed by adopting multiple intelligences theory and a constructivist approach. In the latest curriculum, MoNE 2013 PEC, a synthesize was made using child-centered practices in different learning theories and models in order to meet national characteristics and requirements and to raise the individuals needed in 21st century, and an eclectic curriculum was designed (Gürkan, 2007; MoNE, 2002; MoNE, 2006; MoNE, 2013).

In MoNE 2002 PEC, developmental objectives for 36 to 72 months old children were included, the unit plan was removed and the preparation of annual and daily plan was made compulsory. MoNE 2006 Preschool Education Curriculum aims at supporting psycho-motor, social emotional, language and cognitive development of 36 to 72 months old children in preschool education institutions, acquiring self-care skills and ensuring their elementary school readiness. The developmental characteristics of children between 36 to 48 months, 48 to 60 months and 60 to 72 months old children were addressed separately in MoNE 2006 and 2013 PEC (Kandır, 2002:11; Şıvgın, 2005: 15; MoNE, 2006: 11; MoNE, 2013).

In Turkey, many research studies have been conducted on teacher opinions on preschool education curricula. The assessment of preschool education curriculums are based on objectives, content, process and assessment dimensions (Güler, 2001). In this study, it was aimed to make a historical review by collecting and comparing the teacher opinions on target-behaviors/goals-gains, content, plans, activities, practice and assessment categories of MoNE 2002, 2006 and 2013 PEC under six categories.

Considering MoNE 2002, 2006 and 2013 Preschool Education Curricula in Turkey; the research questions of

this study are as follows:
1. What are the teacher opinions on target-behaviors/objectives-learning outcomes?
2. What are the teacher opinions on the content categories of these curricula?
3. What are the teacher opinions on the plan categories of these curricula?
4. What are the teacher opinions on implementation categories of these curricula?
5. What are the teacher opinions on activities categories of these curricula?
6. What are the teacher opinions on assessment categories of these curricula?

MATERIALS AND METHODS

The method, population, sample group, data collection tools of the study and analysis of the data are presented in this part. Interview technique from qualitative research methods was used in this study. Briggs (1986) argues that interview is the most widely used data collection method in researches conducted in the field of social sciences and states that this is because the interview technique is an effective technique for obtaining information on the experiences, attitudes, opinions, complaints, emotions and beliefs of individuals. In this sense, interview technique was used in this study in order to obtain teacher opinions on target-behaviors/learning-objectives outcomes, content, plans, activities, practices and assessment categories of MoNE 2002, 2006 and 2013 Preschool Education Curricula in Turkey.

Study group

The study group consists of 40 preschool teachers, 20 preschool teachers who worked during 2003 to 2004 academic years and 20 preschool teachers who worked during 2015 to 2016 academic years. The opinions of 20 preschool teachers on MoNE 2002 PEC were obtained from the author's (Durmuşoğlu, 2004) doctoral dissertation named as 'Investigation of the opinions on the implementation of MoNE 2002 PEC' published in 2004. On the other hand, the opinions of the remaining 20 preschool teachers on MoNE 2006 and 2013 PEC were obtained from different preschool teachers. Study group was selected with easily accessible technique from Çankaya, Yenimahalle, Altındağ, Mamak, Sincan, Etimesgut, Keçiören and Gölbaşı districts of Ankara province, Turkey. Participation in this study was based on voluntariness. One personal information form, interview form, voice recorder and pen were used for each teacher during the interviews. The teachers were coded as T1, T2 and T40 instead of using their names. Before the interviews, the participants were informed about the aim and characteristics of the study both verbally and in written form. Verbal permission of the participants was taken for recording their voices during these interviews. The interview times ranged between 20 to 30 min. The interviews with 20 teachers for MoNE 2002 PEC were completed within a month and the interviews with 20 teachers for MoNE 2006 and 2013 PEC were completed within two months. The distributions of personal information of the 40 teachers participating in this study are shown in Table 1.

The frequencies and percentage distributions of the personal information of teachers participating in this study about their age, gender, graduated curriculum, educational status and professional

Table 1. Distribution of personal information of the teachers (T) participating in this study.

Teacher Number	Gender	Age	Graduated curriculum	Educational status	Professional experience(year)
T1	Male	26	Pre-school education	Undergraduate	6
T2	Female	22	Child development and E.	Graduate	5
T3	Female	31	Pre-school education	Undergraduate	11
T4	Female	30	Pre-school education	Undergraduate	9
T5	Female	36	Child development and E.	Undergraduate	17
T6	Female	41	Child development and E.	Undergraduate	22
T7	Female	34	Pre-school education	Undergraduate	12
T8	Female	32	Pre-school education	Undergraduate	15
T9	Female	37	Child development and E.	Undergraduate	16
T10	Female	42	Child development and E.	Undergraduate	23
T11	Female	41	Child development and E.	Undergraduate	22
T12	Female	36	Child development and E.	Undergraduate	16
T13	Female	46	Child development and E.	Undergraduate	27
T14	Female	38	Child development and E.	Undergraduate	19
T15	Female	37	Child development and E.	Undergraduate	17
T16	Female	42	Child development and E.	Undergraduate	23
T17	Female	44	Child development and E.	Undergraduate	25
T18	Female	43	Female vocational high school	Associate degree	24
T19	Female	45	Child development and E.	Undergraduate	26
T20	Female	49	Child development and E.	Associate degree	30
T21	Female	26	Pre-school education	Undergraduate	6
T22	Male	31	Pre-school education	Undergraduate	12
T23	Female	32	Pre-school education	Undergraduate	13
T24	Female	28	Pre-school education	Graduate	8
T25	Female	33	Pre-school education	Undergraduate	14
T26	Female	37	Pre-school education	Undergraduate	17
T27	Female	42	Child development and E.	Undergraduate	21
T28	Female	34	Pre-school education	Undergraduate	14
T29	Female	46	Pre-school education	Undergraduate	26
T30	Female	38	Pre-school education	Undergraduate	18
T31	Female	35	Pre-school education	Undergraduate	15
T32	Female	27	Pre-school education	Graduate	7
T33	Female	44	Child development and E.	Undergraduate	23
T34	Female	31	Pre-school education	Undergraduate	12
T35	Female	38	Pre-school education	Undergraduate	18
T36	Female	35	Pre-school education	Undergraduate	15
T37	Female	36	Pre-school education	Undergraduate	16
T38	Female	40	Child development and E.	Undergraduate	19
T39	Female	34	Pre-school education	Undergraduate	14
T40	Female	39	Child development and E.	Undergraduate	18

experience (years) are shown in Table 2.

When the data regarding gender, age, graduated curriculum, educational status and professional experience information of preschool teachers who reported their opinions on MoNE 2002, 2006 and 2013 PEC are examined, it is seen that 95% of preschool teachers who reported their opinions on all education curricula were women and 5%, only one preschool teacher, was a man. The ages

of 35%, majority, of the teachers who reported their opinions during 2002 curriculum were between 41 to 45 years old and the 40% majority of the teachers who reported their opinions on 2006 and 2013 p curricula were between 31-35 years old. When the types of curricula teachers graduated from are examined, it is seen that 70% of the teachers who reported their opinions on 2002 curriculum were graduated from Department of Child Development and

Table 2. Teachers' personal information.

Categories	Sub- categories	Teachers who reported their opinions on MoNE 2002		Teachers who reported their opinions on 2006 and 2013 curricula	
		N	%	N	%
Gender	Male	1	5	1	5
	Female	19	95	19	95
	Total	**20**	**100**	**20**	**100**
Age	21-25	1	5	-	-
	26-30	2	10	3	15
	31-35	3	15	8	40
	36-40	5	25	6	30
	41-45	7	35	2	10
	46 and over	2	10	1	5
	Total	**20**	**100**	**20**	**100**
Graduated curriculum	Female vocational high school	1	5	-	-
	Pre-school education	5	25	16	80
	Child Development and Education	14	70	4	20
	Total	**20**	**100**	**20**	**100**
Educational status	Associate degree	2	10	-	-
	Undergraduate	17	85	18	90
	Graduate	1	5	2	10
	Total	**20**	**100**	**20**	**100**
Professional experience	0-5 year	1	5	**-**	**-**
	6-10 year	2	10	3	15
	11-15 year	3	15	8	40
	16-20 year	5	25	6	30
	21 year and over	9	45	3	15
	Total	**20**	**100**	**20**	**100**

Education and 25% were graduated from Department of Early Childhood Education, 80% of the teachers who reported their opinions on 2006 and 2013 curricula were graduated from Department of Early Childhood Education and 20% were graduated from Department of Child Development and Education.

When the educational status of the teachers are examined, it is determined that 85% of the teachers who reported their opinions on 2002 curriculum have a bachelor's degree and 90% of the teachers who reported their opinions on 2006 and 2013 curricula have a bachelor's degree. In addition to these, it is also determined that 5 and 10% of the teachers from both two groups have a master's degree. When the seniority status of the teachers who reported their opinions on 2002 curriculum are examined, it is determined that 45% of the teachers have been working for 21 years and more and 25% have been working for 16 to 20 years. When the seniority status of the teachers who reported their opinions on 2006 and 2013 curricula are examined, it is seen that 40% of the teachers have been working for 11 to 15 years and 30% have been working for 16 to 20 years.

Data collection tools

The data collection tools of the study were semi-structured "Teacher Interview Form" and teachers' "Personal Information Form". In addition to this, the verbal permissions of the preschool teachers in sample group of this study were taken before applying these forms.

1. Personal information form: A common information form was prepared in order to acquire some personal information (gender, age, graduated curriculum, educational status, professional experience etc.) about the teachers involved in this study. "Personal Information Form" consisted of a total of 5 questions.

2. Teacher interview form: The semi-structured interview form published in 2004 in the doctoral dissertation of the researcher who conducted this study, named as "Investigation of the Opinions on the Implementation of MoNE 2002 PEC", was employed in this study. The aim of semi-structured interview forms is to identify

reciprocity and difference between the information provided by the interviewed individuals and to make comparisons accordingly. The teacher interview form created after literature review was developed by receiving the opinions of three experts, one expert in preschool education, one expert in curriculum development and one expert in assessment and evaluation. The experts assessed the questions in terms of their clarity, clearness and whether they include the subjects to be investigated and their appropriateness for the teachers' levels. The necessary changes were made in line with their assessments. "Teacher Interview Form" consisted of six categories as target-behaviors/objectives-learning outcomes, content, plans, activities, practice and assessment. "Teacher Interview Form" consisted of a total of 6 questions.

Data analysis

Content analysis was applied to the obtained data from **"**Teacher Interview Forms". According to Yıldırım and Şimşek (2016), the data collected by content analysis should be conceptualized, the concepts should be organized in a logical way, the categories explaining the data should be determined and the findings should be described and interpreted by organizing the codes and themes. After completing the data collection process, a transcript was created by naming every teacher as T1, T2…etc. The transcription and analysis of the data were made in the following order: The voice recordings were transferred to written interview form by the researcher without making any change. The written interviews were examined. The responses given to the research questions were examined separately by both the researcher of this study and an academic member. In line with the obtained data, categories and sub-categories were created. The subjects "agreed" and "disagreed" by the raters in these categories and sub categories were discussed and they were organized under the title of category created from questions and sub-category created from responses. The reliability formula suggested by Miles and Huberman (1994) was used to calculate the reliability of this study. Inter-rater reliability was calculated by using the following formula: (Agreement / Agreement + Disagreement) x 100. As a result of the calculation, inter-rater reliability average was determined to be 92.5%. The reliability averages over 70% are considered to be reliable for the researches. The participants provided more than one responses when reporting their opinions. Therefore, the frequencies of some responses were found to be higher than the number of participants. The teachers were coded as T1, T2, T3 and T40 when noting the findings. These code names were used to quote from the interviews.

RESULTS AND DISCUSSION

The findings and interpretations obtained from the teacher opinions were grouped under six categories (target-behaviors/objectives-learning outcomes, content, plans, activities, practice and assessments of MoNE 2002, 2006 and 2013 PEC) and their subcategories. The expression 'targets and behaviors expected to be acquired' in MoNE 2002 PEC was changed as 'objectives, learning outcomes and indicators (sub-category of learning outcomes)" in MoNE 2006 and 2013 PEC (MEB, 2006:11; Şıvgın, 2005: 15).

Teacher opinions on target-behavior, objectives-learning outcomes and content

The opinions of the teachers on target-behaviors/objectives-learning outcomes and content categories of MoNE 2002, 2006 and 2013 PEC, which are the first and second research questions of this study, are shown in Table 3. Considering the teacher opinions on target-behaviors, objectives-learning outcomes and content categories of MoNE 2002 Curriculum, the majority of the teacher opinions (n:12) suggests that all of the curriculum targets are appropriate for children and they can be acquired by the children. The second majority of teacher opinions (n: 11) suggest that the curriculum includes the targets and behaviors for all developmental areas of children. In this regard, some of the teacher opinions are as follows:

T 3: "…Some of the targets and behaviors in some developmental areas are not adequate in terms of number and quality. Therefore, I think the number of targets in some developmental areas should be increased…"
T 2:"… The targets and behaviors in curriculum are designed for the developmental areas of children ..."
T 6: "...The themes are determined according to the interests and needs of the children..."

According to Kandır (2002), the use of the expression 'targets and behaviors expected to be acquired' started in MoNE 2002 PEC and this curriculum was designed by considering three developmental areas (Psycho-motor area, Social-Emotional area, Cognitive area and Language area) and one skill area (Self-care skills) rather than competence domains. Creativity was not considered separately as it was associated with all developmental areas, but it was suggested that it should also be included in all planned activities.

According to Hujala (2002), when targets and behaviors are clear, tangible, and comprehensive in a way that can make children successful in many aspects, there will be positive outcomes for children. The targets and behaviors should reach out to the standards required by different areas such as language, science, nature, social sciences, art and technology. It is determined that, in the majority of teacher opinions (n:12) on MoNE 2006 Curriculum, the targets, learning outcomes and indicators are clear and comprehensible, the learning outcomes include all developmental areas (n:12). Some of the opinions are as follows:

T 34:"…The objectives and learning outcomes are clear and comprehensible…"
T 21:"…The learning outcomes include all developmental areas…"

Table 3. Teacher opinions on target-behavior, objectives-learning outcomes and content categories of 2002, 2006 and 2013 PEC of MoNE

Categories	Sub- categories	MoNE 2002	MoNE 2006	MoNE 2013
		N	N	N
Target-Behavior and Objectives-Learning Outcomes	Clear, comprehensible, simple	11	12	9
	Not clear and should be reviewed	8	-	1
	Behaviors turned into indicators	2	-	7
	Includes all developmental areas	7	12	-
	Total social-emotional development skills were more, decreased in 2013	-	-	2
	The goals and gains were detailed	-	4	-
	There are not enough targets in each development area	5	1	-
	The objectives an learning outcomes are detailed and rich	-	2	12
	Appropriate for developmental areas and can be gained	12	-	15
	Adequate	11	-	-
	Not adequate in terms of scope	4	2	-
	The teacher can add objectives and indicators	-	-	10
	Total Opinions	60	33	66
Content	The subjects were divided into months	-	3	-
	The themes are determined according to the interests and needs of children	7	-	15
	The content is rich and intense	-	2	-
	Not flexible	-	2	-
	The subject is not a goal but a means	2	1	-
	Total Opinions	9	7	15

When the opinions of teachers on objectives-learning outcomes category of MoNE 2013 Curriculum are examined, it is seen that the majority (n:15) believe that all of the curriculum objectives are appropriate for the developmental areas of children and these objectives can be acquired by them. Some of the teacher opinions are as follows:

T 40:"…While the learning outcomes related to language, movement and self-care skills were increased in 2013 curriculum, the social-emotional skills were decreased..."
T 37: "…The curriculum is developed by targeting the developmental characteristics of children according to their age groups. There is a monthly plan and daily training flow. Integrated activities create a holistic approach in training flow…"

When the opinions of teachers on content category in Table 3 are examined, it is determined that 7 teachers in 2002 and 15 teachers in 2013 PEC suggest 'The themes are determined according to the interests and needs of children'. In content category of 2006 PEC, it is seen that 3 teachers suggest 'The subjects were divided into months', 'The content is rich and intense' and 'The subjects are not flexible'. Some of the teacher opinions on these categories of 2002 and 2013 curricula are as follows:

T 3: "…The themes are determined according to the interests and needs of children…"

T 35: "…The content is structured after determining the things that children are interested in such as animals or space…."

Plans, activities and practices

The opinions of teachers on plans, activities and practices categories of MoNE 2002, 2006 and 2013 PEC, which are the third, fourth and fifth research questions of this study, are shown in Table 4. When the opinions of teachers on MoNE 2002 PEC are examined, it is seen that 15 teachers suggest that 'There is a unit plan' and 'There is an annual plan', 12 teachers suggest 'there is a daily plan'. When the opinions of teachers on MoNE 2006 PEC are examined, it is seen that 12 teachers suggest 'There is a daily plan', 11 teachers suggest 'There is an annual plan'. When the opinions of teachers on MoNE 2013 PEC are examined, it is seen that 13 teachers suggest 'There is a monthly plan' and 10 teachers suggest 'There is a daily plan'. Some of the teacher opinions on these categories are as follows:

T 8: "…There were annual, unit and daily plans in MoNE 2002 PEC…"
T 22: "…Unit plans and annual plans were not included in MoNE 2006 PEC; but monthly and daily training flow are included…"

In support of these opinions, Kandır (2002) stated that developmental objectives are included in MoNE 2002 PEC, it was made obligatory to use subjects as means rather than adopting subjects teaching method, and in line with this, the unit plans were removed and it was made obligatory to prepare annual and daily plans. When the opinions of teacher on activities category of MoNE 2002 PEC are examined, it is seen that 5 teachers suggest 'The activities are predominantly based on games' and 4 teachers suggest 'The children actively participate in activities/practices'. When the opinions of teachers on practices category of MoNE 2002 curriculum are examined, it is seen that 5 teachers suggest 'The curriculum is child-centered', 5 teachers suggest 'The curriculum is teacher directed-guided' and 4 teachers suggest 'The children actively participate in activities/practices'. Some of the opinions are as follows;

T 5: "…I consider the characteristics, interests, and needs of the students when I'm implementing the curriculum in order to acquire the targets and target behaviors. I pay special attention to ensure that the children are active participants in practices. I encourage them to do research. In practices, I focus on dramatization studies that children can express themselves …"

T 6: "…I think MoNE 2002 curriculum is more effective as it is child-centered and teacher directed and the children are active participants…"

In parallel with the opinions of T 6, Hujala (2002) identifies three items that should be emphasized in early childhood education as:

a. Child-centered curriculum and active participation of children in curriculum,
b. Well-established relationships and links between the developmental areas of children,
c. Educators' awareness of their responsibility for creating a learning environment in which children actively participate.

The developmental preschool education curricula centering on the child emphasize the effectiveness of active environment for supporting the growth and development of the child (Egertson, 1987). When the opinions of teacher on activities category of MoNE 2006 PEC are examined, it is seen that 8 teachers suggest 'The activities are predominantly based on plays' and 5 teachers suggest 'The activities are focused on the interests and needs of children'. It is seen that 8 teachers suggest 'The practices are child-centered', 7 teachers suggest 'The practices are teacher directed-guided' and 6 teachers suggest 'The children actively participate in activities/practices'. In this, regard, the opinion of T 23 is quite remarkable:

T 23: "…The curriculum is implemented as a teacher-centered curriculum although it is child-centered…"
T 22: "…The activities are implementable. The separation and enrichment of play and movement activities can be regarded as a good progress…"

In a study performed by Gelişli and Yazıcı in 2012, it was determined that MoNE 1994, 2002 and 2006 PEC were child-centered, the objectives, learning processes and assessment processes of these curricula were determined by considering the ages, developmental characteristics, interests and needs of children (Gelişli and Yazıcı, 2012). The findings of their study are in parallel with the findings of this study.
   In a study conducted by Durmuşçelebi and Akkaya on 'Assessment of the implementation of 2006 PEC According to Teacher Opinions' in 2011, it was determined that the participants assessed the content dimension of curriculum as positive. It can be concluded that the curriculum is successful at reaching the desired objectives and teachers adopt this characteristic of the curriculum as participants positively assessed the item 'The subject is a means rather than an end'. The positive assessment of 'The units are not included in curriculum'

Table 4. Teacher opinions on plans, activities and practices categories of 2002, 2006 and 2013 PEC of MoNE.

Categories	Sub-categories	MoNE2002	MoNE 2006	MoNE 2013
		N	N	N
Plans (Annual, Monthly, Unit and Daily)	Preparing a daily plan takes a long time	-	2	-
	There is an annual plan	15	11	-
	There is a monthly plan	-	2	13
	There is no unit plan	15	3	-
	There is a unit plan	-	8	-
	There is daily plan/daily training flow	12	12	10
	Total Opinions	42	38	23
Activities	The activities are focused on the interests and needs of children	3	5	6
	The activities are predominantly based on games	5	8	8
	Method and technique were added	-	1	1
	It is difficult to diversity the activities	-	1	-
	The child restructures the information himself/herself	-	1	-
	Good morning and daily assessment times were added	-	-	3
	Integrated activities are predominantly preferred	-	-	4
	There are more creative activities	-	1	3
	Predominantly focused on trip-observation-examination-experiment and drama	2	-	-
	Game and movement activities are separated	-	2	-
	Sufficient	2	6	10
	Total Opinions	12	25	37
Practices	Flexible	6	2	3
	Not Flexible	1	-	-
	Child-centered	5	8	10
	Active participation	4	6	5
	Teacher-centered	3	3	-
	Teacher directed-guided	5	7	6
	The activities are implementable and easy	2	5	5
	There is a learning environment where children can independently gain experience	-	1	3
	The environment is organized with rich stimulants	1	-	3
	Document works is intense, the teacher has to fill up many forms and this causes loss of time	-	4	1
	The area and environment differences are taken into account in practices	2	-	3
	The practices are creative	1	3	4

Table 4. Cont'd.

The children solve the problem	-	-	5
Total Opinions	30	37	49

item by participants shows that the core of the curriculum is understood by teachers.

The majority of the teacher opinions on activities category of MoNE 2013 PEC suggests that the activities are adequate (n:10) and the second majority suggests that the activities are predominantly based on games (n:8). Considering the practice category of the same curriculum, the opinions of teachers suggest that the practices are child-centered curriculum (n:10). Marcon (1999) conducted a study and investigated the effects of child-centered curricula and teacher-directed curricula on the development and basic skills of four-years-old group. In line with the responses of the teachers and as a result of the analysis conducted, it was determined that child-centered curricula were more successful and effective than teacher-directed curricula based on progress in development and basic skills instruction. Considering MoNE 2013 PEC, unlike other curricula, the opinions of teachers suggest that the children solve problems by making their own decisions (n: 5) and it is a creative curriculum (n: 4). Some of the teacher opinions on this category are as follows:

T 36: "…In 2002 and 2006 curricula, 4-5 different activities were included in daily plans. However, 2013 curriculum provides the children with the flexibility to practice only one activity if it meets the interests and needs of children. The integrated activities ensure the continuity of children's motivation without distracting…"

T 39: "…The children solve the problems by making their own decisions. And this allows them to think creatively…"

Rosser's views are in line with the aforementioned teacher opinions. According to Rosser (1993), preschool education curricula should include expected behaviors and targets that improve flexible, innovative, creative thinking, problem solving skills, the ability to establish cause-and-effect relationships between events and decision-making skills of children.

Assessment

The opinions of teachers on assessment category of MoNE 2002, 2006 and 2013 PEC, which is the sixth research question of this study, are shown in Table 5.

The assessment of 2002 preschool education curriculum

The teacher opinions on this category were grouped as child, teacher and curriculum assessment.

Child assessment: When child assessment category is examined, it is seen that most of the teachers (n: 12) evaluate children by filling out observation forms and development files once a

month or every 3 months. Second, it is seen that the same number of teachers evaluates children using anecdote and daily records, learning outcome forms and projective tests, and using survey for families (n:3). Some of the teacher opinions in this category are as follows:

T 14: "…When evaluating children, I fill out observation forms once a month or every 3 months and I record their developmental characteristics…"
T 7:"…Observation records, anecdote records, development control lists, portfolios and developmental reports were utilized when evaluating children. In addition to these, learning outcome assessment form and teacher self-assessment form were also developed.

According to Poole (2001) portfolios include observations about children, works that child has done with different materials and photos taken during these activities, paints drawn by the child, video records, speech records, interviews made with family, teacher's and family's reviews about the child, letters sent to and by the family of child and projects completed by the child with his family or in school.

Teacher assessment: When teacher assessment category is examined, it is seen that teachers asssess what children learned according to the annual and daily plans (n: 4), they use families' feedbacks (n: 4). It is also seen that teachers

Table 5. Teacher Opinions on Assessment Categories of MoNE 2002, 2006 and 2013 PEC.

Categories	Sub-categories	MoNE 2002	MoNE 2006	MoNE 2013
		N	N	N
	Child Assessment:			
	Observation form- file	12	13	15
	Anecdote and daily records	3	3	-
	Learning outcome assessment forms/ projective tests	3	11	8
	Development reports	-	12	14
	Portfolios	-	4	10
	Survey for families	3	-	1
	Total Opinions	21	43	48
	Teacher Assessment:			
	Assessment of what children acquired according to the daily, monthly and annual plan	-	1	6
	Self-assessment at the end of day and month	4	5	5
	Assessment of families' feedbacks about teachers	5	-	1
	Assessment of whether a creative, entertaining and effective curriculum is prepared and implemented or not	4	8	9
	Self-assessment at seminars and meetings	3	-	-
	Self-assessment according to children's feedbacks	4	2	1
	Assessment of whether techniques, methods and approaches are utilized or not	-	3	4
Assessment	Assessment of material selection and time management	4	3	3
	Self-assessment in solving problems encountered in practice	-	1	3
	Use of self-assessment form	3	3	6
	Following new publications on self-assessment	1	-	-
	Total Opinions	32	25	38
	Curriculum Assessment:			
	Assessment of the applicability of activities	4	3	8
	Assessment of daily-monthly plans	2	2	3
	Assessment of target/objectives and behavior/learning outcomes	4	5	4
	Assessment of techniques-methods	2	2	4
	Assessment of whether activities are entertaining or not	2	6	6
	Assessment of materials, time and environment	4	2	5
	The observation of activities	1	1	1
	The curriculum was not evaluated very much	-	3	1
	The children are included in assessment	-	1	3
	Assessment questions are added to the curriculum	-	-	1
	Total Opinions	19	25	36

assess themselves on techniques, methods and approaches (n: 4) and assess themselves in terms of solving problems encountered in practice (n: 4). In this regard, T 16 expressed his/her opinions as follows:

T 16: "…I evaluate myself and observe the adequacy and inadequacy of the plan I prepared by considering the curriculum, activities and children's feedbacks and by observing the appropriateness of the educational environment, material selection and time management. At the end of activities, I identify my deficiencies and ask myself 'How can I improve myself?'

Curriculum assessment: When curriculum assessment category is examined, it is seen that teachers assess the applicability of the activities (n: 4), assess whether target/objectives and behavior/learning outcomes are acquired or not (n: 4), assess the use of materials, time and environment (n: 4). Some of the teacher opinions on this category are as follows:

T 8: "…I identify the problems and requirements of daily plan and practice when evaluating activities. I also evaluate the materials selected for activities, time management and the appropriateness of tools and environment.
T 14: "…I identify positive-negative situations between plan and practice, problems and requirements when evaluating activities. I evaluate whether the material, tools and environment chosen are appropriate for the activities or not."

The assessment of 2006 preschool education curriculum

Child assessment: When child assessment category of 2006 PEC is examined, it is seen that teachers assess children by filling out observation forms (n:13) and development files (n:12), they use learning outcome assessment forms and projective tests (n:11) . One of the opinions on this category is as follows:

T 32: "…It is a curriculum that emphasizes the importance of how the process works rather than what is learned in school and allows us to observe and evaluate children by using observation forms…"

While MoNE 2002, 2006 and 2013 curricula include assessment of children, teachers and curriculum, 2006 curriculum aims at assessing children with different assessment tools and methods by adding detailed anecdote records, developmental checklists and standard tests and portfolios (Kandır et al., 2009:22; MoNE, 2006:91; MoNE, 2013:53-54). The findings of the study

conducted by Kandır and others are partially in parallel with the findings of this study.

Teacher assessment: When teachers' assessment category of 2006 PEC is examined, it is seen that teachers assess whether a creative, entertaining and effective curriculum is prepared and implemented or not (n:8); evaluate themselves at the end of day and month (n:5); assess themselves on whether they utilized techniques, methods and approaches or not (n:2); assess material selection and time management (n:3), using self-assessment forms (n:3). In this regard, T 26 expressed his/her opinions as follows:

T 26: "…We were trying to prepare a creative and entertaining curriculum according to the annual and daily plan and we were assessing the success in practice. In addition to this, we were criticizing ourselves in terms of the techniques, methods, materials and time management..."

Curriculum assessment: In this category, it is seen that teachers evaluate whether the activities are entertaining or not (n:5), whether target/objectives and behavior/learning outcomes are acquired by children or not (n:4). One of the opinions in this category is as follows:

T 31: "…I assess whether the activities in curriculum are entertaining and implementable or not…"

As a result of the study conducted by Durmuşçelebi and Akkaya (2016) for assessing 2006 PEC in line with the opinions of teachers in Kayseri province of Turkey, it was concluded that the implementation of 'Assessment' dimension among the items of 2006 PEC was negatively assessedby preschool teachers. It can be said that, in 2012 Preschool Education pilot curriculum, making assesments with descriptive, emotional and learning outcomes-oriented questions and life-related questions in activity plan and assessing daily training flow in terms of teacher, curriculum and child were regarded as a positive change in assessment dimension by teachers. The findings of their study are partially in parallel with the findings of this study.

The assessment of 2013 preschool education curriculum

Child assessment: When child assessment category of 2013 PEC is examined, it is seen that teachers assess children by filling out observation forms (n:15) and development files (n:14), they use portfolios (n:10). One of the opinions in this category is as follows:

T 39: "…Observation records, anecdote records, development control lists, portfolios and developmental reports were utilized when assessing children. In addition to these, learning outcome assessment form and teacher self-assessment form were also developed..."

Teacher assessment: In this category, it is seen that teachers assess whether a creative, entertaining and effective curriculum is prepared and implemented or not (n:9), assess what children acquired according to the daily, monthly and annual plan (n:6) and use self-assessment form (n:6). In this regard, T 24 expressed his/her opinions as follows:

T 24. "…It is a significant detail to what extent the children acquired the learning outcomes. In this regard, the teacher should assess himself/herself too. The dimension of assessment was addressed in many ways..."

Curriculum assessment: In this category, it is seen that teachers assess whether the activities in curriculum are entertaining or not (n:8), assess the applicability of the activities (n:6), assess materials, time and environment (n:5) and assess target/objectives and behavior/learning outcomes (n:4). In addition to these, there is an opinion indicating that children are also included in assessment process in 2013 curriculum. Some of the teacher opinions are as follows:

T 39: "...I evaluate the curriculum by considering the applicability of the activities and to what extent children are entertained during activities.
T 28: "…While 2002 and 2006 curricula expect teachers to make assessments in just three categories, we include the children in assessment process in 2013 curriculum ..."

In a study conducted by Özsırkıntı et al. (2014) on the opinions of preschool teachers on preschool education (Adana province sample), it was determined that 2013 PEC was assessed as a curriculum that provides child-centered, flexible and active learning, the learning outcomes and indicators were clear, comprehensible and appropriate for the objective of the curriculum. The findings of their study are partially in parallel with the findings of this study.

In a study conducted by Sapsağlam in 2013 on 'Assessment Dimensions of PEC' (1952-2013), the assessment dimension in 2013 curriculum was found to be as versatile as it was in 2002 and 2006 curricula, in other words, includes the assessment of child, teacher and curriculum. Assessment activity in 2013 curriculum was referred to as 'Time to Evaluate the Day'. It has been foreseen that the teachers should create a 'Portfolio' (development file) from the beginning of the academic year and to organize 'Development File Sharing Day' by inviting parents to school at the end of the academic year. New forms such as development observation forms and development reports have been developed and presented in curriculum as a basis for the assessment of children (Sapsağlam, 2013; MoNE, 2013). The findings of his study are in parallel with the findings of this study. If the curriculum is not efficiently implemented, it can be said that the system is unplanned. This situation also brings about great difficulties for the teacher. Therefore, the implemented education curriculum should be developed by assessing the curriculum periodically (Winter, 1994: 91-95).

Conclusion

In this section, the conclusions were obtained from the teacher opinions on target-behaviors/objectives-learning outcomes, content, plans, activities, practice and assessment categories of MoNE 2002, 2006 and 2013 PEC. In the vast majority of teacher opinions on MoNE 2002 PEC, it is reported that the objectives of curriculum are appropriate for children and these objectives can be acquired by children. Second, it is reported that the curriculum has objectives and behaviors for all developmental areas of children. It is determined that more than half of the teachers suggest that targets/objectives and behaviors/learning outcomes are clear, comprehensible and simple. In addition to these, some teachers suggest that the target and behavior expression in curriculum are insufficient in terms of number and scope and, therefore, should be reviewed. Considering most of the teacher opinions on MoNE 2002 and 2006 Curriculum, it is suggested that objectives and learning outcomes are comprehensible and clear, and learning outcomes include all developmental areas. In the MoNE 2013 Curriculum, it is seen that the majority of teachers believes that all of the curriculum objectives are appropriate for the developmental areas of children and these objectives can be acquired by them. The second majority of teachers believe that the learning outcomes-indicators are detailed and are enriched. It is especially suggested that the learning outcomes for language, movement and self-care skills are increased and socio-emotional skills are decreased in this curriculum when compared to the previous curricula. Most of the teacher opinions on content category of MoNE 2002 and 2013 PEC suggest that the content and topics are determined according to the interests and needs of children. In MoNE 2006 PEC, some of the teacher opinions suggest that content is rich and intense, but the topics are not flexible. More than half of teacher opinions on plans category of MoNE 2002 and 2006 PEC suggest that there is a daily plan and most of the teacher opinions on plans category of MoNE 2006 PEC suggest that there is an annual plan.

It is also seen that the majority of teacher opinions on plans category of MoNE 2013 Curriculum suggests 'there is a monthly plan' and half of the opinions suggests 'there is a daily plan'. In activities category of MoNE 2002, 2006 and 2013 Curricula, it is seen that first majority of the opinions suggests 'The activities are predominantly based on games' and focused on the interests and needs of children. In practice category of the same curricula, it is suggested that the practices are child-centered, the teacher serves as a moderator during activities, the activities are implementable and easy and it is an actively participated curriculum. In activities category of MoNE 2013 PEC, the majority of teacher opinions suggests that the activities are adequate and unlike other curricula, the opinions of teachers suggest that the children solve problems by making their own decisions, it is a creative curriculum and integrated activities are predominantly preferred. In practice category of the same curriculum, it is suggested that the practices are child-centered, the teacher serves as a moderator during activities, the activities are implementable and easy and it is an actively participated curriculum.

Considering the teacher opinions on child assessment category of MoNE 2002, 2006 and 2013 curricula the two majorities suggest that teachers evaluate children by filling out observation forms and development files and the third majority suggests that teachers use learning outcomes assessment forms and projective tests. When opinions on teacher assessment category of the MoNE 2002, 2006 and 2013 PEC are examined, it is determined that first majority suggests teachers evaluate whether a creative, entertaining and effective curriculum is prepared and implemented or not, the second majority suggests teachers evaluate themselves at the end of the day and month. In addition to the MoNE 2013 Curriculum teacher assessment category is examined, it is determined that teachers evaluate what children acquired according to the daily and annual plans, they use the children's and families' feedbacks and assess themselves in terms of solving problems encountered in practice and whether techniques, methods and approaches are utilized or not. The majority of teacher opinions on curriculum assessment category suggest that teachers assess whether activities are entertaining or not, assess to what extent children acquired objectives and behaviors, assess the use of materials, time and environment and assess daily plans. In line with the results of this study, the recommendations for future studies were divided into four categories as recommendations for curriculum, teachers, researchers and MoNE General Directorate of Preschool Education.

RECOMMENDATIONS

In line with the results of this study, the implications for future studies were divided into four categories as implications for curriculum, teachers, researchers and MoNE General Directorate of Preschool Education.

a) Recommendations for curriculum:

- The objectives and learning outcomes in 2013 curriculum should be revised by subject area experts and the curriculum should be reorganized after removing the qualitative and quantitative deficiencies.
- The number of objectives and learning outcomes for social and emotional development areas should be increased and family involvement efforts should be carried out more effectively.
- The assessments and teacher opinions on curriculum should be obtained by using a healthy feedback method. These feedbacks should be taken into account by the authorities responsible for preparing curriculum and should be included in curriculum making process.

b) Recommendations for teachers:

- Preschool teachers' information on associating activities with life, play activities, identification and assessment works, the use of different method and techniques and family involvement should be updated by receiving in-service training.
- Research studies should be carried out for identifying the problems and requirements of preschool teachers about the dimensions of curriculum and solutions should be provided for these problems.

c) Recommendations for researchers:

- Research studies should be carried out for reorganizing the content and theoretical and practical lesson times of the courses related to the subjects that teachers in undergraduate preschool education curricula need to acquire.
- Research studies should be carried out on teachers' self-assessments, assessment of learning-teaching processes, assessment of curricula, being aware of different approaches and curriculum models, realizing their professional deficiencies and identifying the challenging issues for them. Then, in-service trainings on these issues should be provided for the teachers.
- This study can be conducted on a wide scale across Turkey in order to identify the problems and needs of preschool teachers.
- Longitudinal studies should be conducted with long-term and in-depth observations of the functioning and implementation of preschool education curricula. Data triangulation method should be applied by supporting these studies with surveys and interviews.

d) Recommendations for MoNE General Directorate of

Preschool Education:

- MoNE authorities and subject area experts such as teachers, administrators, inspectors, preschool experts, child development experts, curriculum development experts, assessment and assessment experts, and special education experts should be included in the development and revision process of preschool education curricula.
- In order to implement the curriculum in classroom environment effectively, the preschool teachers should be encouraged in terms of the resources for supporting learning materials and curriculum. The preschools should be equipped with technological tools, organized with materials, tables and chairs for supporting children's collaborative learning. In addition to these, comfortable working environments should be created.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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