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Full Length Research Paper

Research on the influence of teachers' perceived transformational leadership on knowledge sharing behavior in colleges and universities in Anhui, China

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This study aims to explore the impact of perceived transformational leadership on knowledge sharing behavior among university teachers in Anhui Province, China. Using a questionnaire survey method, convenient sampling was conducted among college teachers in Anhui Province. With 326 teachers as the research subjects, SPSS software was used to analyze the relationship between teachers' perception of transformational leadership and knowledge sharing behavior in the context of colleges and universities. Additionally, this study compared the impact of demographic variables such as age, teaching experience, and professional title on teachers' knowledge sharing behavior. The research results indicate that Anhui university teachers' perception of transformational leadership has a significant positive impact on knowledge sharing behavior. Moreover, there are significant differences in teachers' knowledge sharing behavior based on their age, teaching experience, and professional titles.

Key words: Teachers' knowledge sharing behavior, transformational leadership in colleges and universities, Anhui university teachers.

INTRODUCTION

The 21st century is an era dominated by the knowledge economy, and knowledge has become the driving force of social development (Lin et al., 2018). The development of a knowledge-based economy society has created an urgent demand for knowledgeable talent and high-quality higher education. As the cradle of knowledge output, colleges and universities serve as bases for knowledge innovation, knowledge dissemination, and personnel training (Margerum-Leys and Marx, 2004). Teachers' knowledge level significantly determines the quality of running colleges and universities and their ability to train talents (Xu and Li, 2022).

As the core of knowledge management in colleges and universities, knowledge sharing is a crucial way to

promote teachers' development (Xu and Li, 2022). The reason college teachers share knowledge is that knowledge is the most critical resource for colleges and universities, fundamental to maintaining advantages in a competitive environment. Similarly, teachers' knowledge-sharing ability determines the innovation capacity of colleges and universities, affecting their long-term development and core competitiveness (Song, 2014). As knowledge workers, knowledge sharing among teachers is vital for higher education, contributing to professional development and the growth of higher education institutions and the academic community as a whole (Pratama et al., 2021). The quality of higher education primarily depends on the competence and capabilities of faculty members within this domain (Areekkuzhiyil, 2014). Knowledge sharing holds significant importance in enhancing the professional skills and capabilities of university faculty in the knowledge era (Huo, 2013; Semradova and Hubackova, 2014).

When it comes to teaching and research, university faculty often exhibit a limited propensity for knowledge sharing, hindering the effective exchange and utilization of knowledge among peers (Bao, 2017). Universities generally acknowledge the importance of knowledge sharing in educational practice (Bibi and Ali, 2017). However, teachers are constrained by egoism, a sense of self-worth regarding their knowledge, a lack of resource convenience, competition, and evaluation systems, as well as collaborative culture and team atmosphere. These factors create numerous obstacles to teachers' knowledge sharing. Therefore, revealing the main driving forces and influencing factors behind teachers' knowledge sharing is a prerequisite for strengthening teachers' knowledge-sharing practices. To effectively address this need, it is critical to consider establishing and maintaining a proficient knowledge management framework within colleges and universities. Unique leadership styles are very important in knowledge-sharing activities (Archanjo de Souza et al., 2020). There are many ways to lead, and transformational leaders are role models for followers and team members who share knowledge and creativity, so that teams can cooperate efficiently (Choi et al., 2016; Dappa et al., 2019). Transformational leadership can stimulate internal motivation for knowledge sharing (Li et al., 2015), and higher internal motivation is crucial for organizational knowledge sharing. Phung et al. (2019) found that transformational leadership is regarded as a key factor in knowledge sharing behavior, and it is more needed in higher education systems (Tahernejad and Aminian, 2012). Although transformational leadership is a relevant leadership style for effective management of knowledge sharing (Birasnav et al., 2011), there are few studies on the relationship between transformational leadership and knowledge sharing in universities compared with enterprises (Han et al., 2016; Wang and Noe, 2010). Therefore, this study uses background variables such as

teachers' age, teaching experience, and professional titles as control variables to explore the impact of transformational leadership in colleges and universities on teachers' knowledge sharing behavior.

Many factors may influence knowledge sharing behavior (Sukumar and Ferrell, 2013), including individual and organizational factors. Individual behavioral factors of knowledge sharing include demographic variables (Ipe, 2003). Among these, teaching age is a significant factor affecting knowledge sharing behavior. Despite the numerous influencing factors on knowledge sharing, there has been relatively little research on personal characteristics. In fact, personal characteristics should be the focal point of research, and demographic characteristics represent a crucial research direction (Zheng, 2017). Therefore, population characteristics are a worthy research focus. To study demographic characteristics, relevant demographic indicators such as age, organizational tenure, professional background, educational attainment, gender, and socioeconomic background can be employed (Zheng, 2017).

While researchers like Howell and Annansingh (2013), Al-Kurdi et al. (2018), and Fullwood and Rowley (2017) have identified barriers to knowledge sharing in higher education, there remains a lack of empirical research on knowledge sharing behavior in higher education as a whole. Given that transformational leadership may be a significant driver of knowledge sharing, it is essential to study the correlation between transformational leadership and knowledge sharing behavior in universities, particularly in the context of China.

As specialization and field refinement progress, the comprehensive knowledge and skills of college teachers need continuous updates. To overcome the bottleneck in professional quality development, it is necessary to keep pace with the professional field to achieve a continuous improvement in professional quality and the knowledge system (Yu and Zhou, 2015). Effective knowledge sharing plays a crucial role in knowledge-intensive organizations such as higher education (Al-Kurdi et al., 2018). Therefore, this study focuses on undergraduate university teachers in Anhui Province, China, and explores the influence of university transformational leadership on knowledge sharing behavior. This research aims to provide reference and practical applications for promoting knowledge sharing behavior among Chinese university leaders and teachers in educational practice.

LITERATURE REVIEW

Teachers' knowledge sharing behavior

Lin (2007) considers knowledge sharing to be a socially interactive culture through which knowledge, skills, and experiences are exchanged among individuals throughout a department or organization. Knowledge-

sharing behavior is seen as an interaction that involves knowledge exchange among scholars, measured by the frequency of faculty participation in knowledge-sharing activities at the university. Moreover, knowledge sharing in a university setting is not only about spreading knowledge, but also about creating it (Van den Hooff and Huysman, 2009). Zou (2011) believes that knowledge sharing by college teachers is a process in which college teachers exchange and discuss personal knowledge resources within the school organization through various channels and share them with other teachers in the organization, thus transforming them into knowledge wealth of the school organization.

Ramayah et al. (2014) believes that knowledge-sharing behavior is the sharing of job-related knowledge and expertise between scholars and other faculty and staff in a university, which helps to improve the level of a university. Knowledge sharing is described as a separate activity that involves providing or receiving knowledge to a person and creating new knowledge with each other (Abukhait et al., 2019). According to the research of Al-Husseini and Elbeltagi (2018), this study defines teachers' knowledge sharing behavior as the process in which teachers realize professional knowledge and work experience in various forms, learn new knowledge and stimulate new thinking, and realize knowledge accumulation.

Transformational leadership

Bass (1985) believed that transformational leadership is to make employees realize the importance of tasks and obligations, leaders stimulating high-level needs of employees or expanding multi-faceted needs of employees, creating an atmosphere of mutual trust, and enabling employees to strive for greater interests of the organization. Transformational leadership theory has attracted wide attention and become the mainstream of leadership theory (Mhatre and Riggio, 2014). Leithwood (1994) believes that transformational leadership is the leadership behavior that improves the ability of individual and collective problem-solving in the process of school change, In the field of education, the establishment of organizational and member capabilities is an important part of the research on transformational leadership. Therefore, transformational leadership cannot be ignored in school change. The emergence of transformational leadership in schools coincides with the requirements of the second round of education reform in the world, with educational research focusing on organizational learning, co-leadership, and problem-solving (Silins and Mulford, 2002). At the same time, the research on transformational leadership in the field of education has also attracted the attention of scholars. Leithwood and Jantzi (2005) developed a model of transformational leadership in education that includes four categories. In this study, transformational leadership in universities is defined as

an innovative process of change in which individuals integrate and connect to enhance the enthusiasm and ethical awareness of leaders and faculty.

Relationship between demographic variables and teachers' knowledge sharing behavior

College teachers with different education level, gender, professional title and teaching age have different knowledge sharing behaviors in demographic variables, and individuals with more experience are more willing to share knowledge (Phong et al., 2018). Bao (2017) found that there are significant differences in knowledge sharing among university teachers due to their work experience and professional titles. Al-Husseini and Elbeltagi (2018) took age, gender, marital status, teaching experience, educational background and professional title as control variables. In terms of age, teaching experience and job title, the respondents were divided into different categories. In terms of education, the majority of respondents have a master's or doctoral degree, accounting for 95.2%. In their study, Cui and Wang (2020) pointed out that teachers' knowledge sharing behaviors differ in demographic variables, and teachers' knowledge sharing behaviors are significantly different in gender, and the degree of female teachers is higher than that of male teachers. There is a significant difference in teaching age. Further multiple comparisons show that there is a significant difference between the group of teachers with teaching age of less than 5 years and the group of teachers with teaching age of 5-10 years, and the knowledge sharing degree of teachers with 5-10 years is higher; There are differences in positions, teachers and administrative teachers are higher than full-time teachers; Finally, there is no significant difference in teachers' knowledge sharing behavior in terms of age, educational background and professional title.

Based on the above analysis, this research hypothesis is proposed:

H1a: There are significant differences in teachers' knowledge sharing behaviors among different ages.
H1b: There are significant differences in knowledge sharing behaviors of teachers with different teaching ages.
H1c: Different professional titles have significant differences in teachers' knowledge sharing behavior.

Relationship between demographic variables and transformational leadership

Demographic theory (Korac-Kakabadse et al., 1998) argues that attributes such as age, tenure, occupation, gender, and experience level are constitutive characteristics that influence interpersonal and group dynamics. Although a large number of studies have

involved the relationship between leadership, gender and age, only a few researchers have discussed the relationship between leadership and teaching age, and even fewer researchers have discussed the relationship between leadership style and position (Baba, 2022). The demographic variables in Baba (2022) study include gender, age, professional title and teaching age, and the results show that there are significant differences in the overall perception of transformational leadership among staff with different professional titles and teaching age. Allameh et al. (2012) mentioned that the dimensions of transformational leadership differ in demographic characteristics such as gender, age, work experience, educational background and education level. The results of multivariate analysis of variance show that transformational leadership has no significant difference in demography. Valentine and Prater (2011) found through the correlation matrix that gender, working years and work experience were not significantly correlated with transformational leadership, while education level was significantly correlated with transformational leadership. Baba et al. (2021) took age and gender as control variables. In almost all dimensions of transformational leadership except idealized behavior, the average score of male respondents was higher than that of female respondents, and there were significant differences in the cognition of faculty members of different ages on each dimension of transformational leadership. Based on the above analysis, hypothesis is proposed:

H2a: There are significant differences in perception of transformational leadership among different ages.
H2b: There are significant differences in the perception of transformational leadership among different teaching ages.
H2c: Different job titles have significant differences in the perception of transformational leadership.

Transformational leadership and teachers' knowledge sharing behavior in universities

Transformational leadership promotes and fosters norms and values that encourage knowledge sharing. Transformational leaders with idealized influences instil admiration, respect, and belief, emphasizing the importance of having a collective sense of the organization's mission (Bass and Riggio, 2006). When members feel that leaders have confidence in them, trust them, care about their work, and appreciate their efforts to create knowledge, they are more willing to speak up and share knowledge (Lee et al., 2010). Leaders who are inspired by inspiration realize the organizational vision for their members and inspire leaders' mission-oriented commitment by sharing the vision (Yukl and Mahsud, 2010). When shown to be intellectually stimulating, transformational leaders generate different ways of

thinking and seek new ways to solve problems from multiple perspectives. Leaders who comment and openly share ideas are more likely to encourage knowledge-sharing activities (Von Krogh et al., 2012). Leaders who use personalized considerations are aware of the needs and concerns of their followers as individuals and develop their strengths through coaching and counseling (Bass and Riggio, 2006).

Transformational leadership can promote learning a01ctivities and create an environment that supports knowledge (Gunter, 2001), is a major related factor to increase knowledge sharing (Li et al., 2014), and has a positive impact on the communication between leaders and members. This leads to increased knowledge sharing behavior and follower trust in leaders (Lee et al., 2010; Li et al., 2014). In the context of higher education, transformational leadership is crucial for the development of education (Green, 2013), the establishment and strengthening of teachers' knowledge sharing mechanism (Chen and Hu, 2010), regular learning to exchange views, experiences and methods (Ma and Li, 2015), and the promotion of teachers' knowledge sharing (Li and Tang, 2009). Therefore, hypothesis H3 is proposed: Transformational leadership in universities has a significant positive impact on teachers' knowledge sharing behavior.

METHODOLOGY

Research framework

The purpose of this study is to explore the relationship between transformational leadership and teachers' knowledge sharing behavior, as well as the influence of demographic variables on transformational leadership and teachers' knowledge sharing behavior. The research framework is shown in Figure 1.

Subjects

For teachers in colleges and universities in Anhui Province, China, 180 pre-examination questionnaires were distributed, and 161 valid samples were recovered, with an effective rate of 90%. This study used questionnaire survey method to collect relevant data. Questionnaire survey is a research method often used in empirical research in social sciences, and it is also the most commonly used method of collecting data in educational research. It has good anonymity and can complete the questionnaire without interference from others, which can be better to express one's opinion (Zheng, 2014). The sample size and item ratio of the questionnaire are roughly 1:5, which is more appropriate (Tinsley and Tinsley,1987). Considering that some invalid questionnaires may appear, therefore , Formal questionnaires were distributed to 350 teachers, and 326 valid samples were recovered, with an effective rate of 93%. Statistical analysis was performed on the collected data.

Research tools

Teacher knowledge sharing behavior scale

Using the Teacher Knowledge Sharing Behavior Scale developed
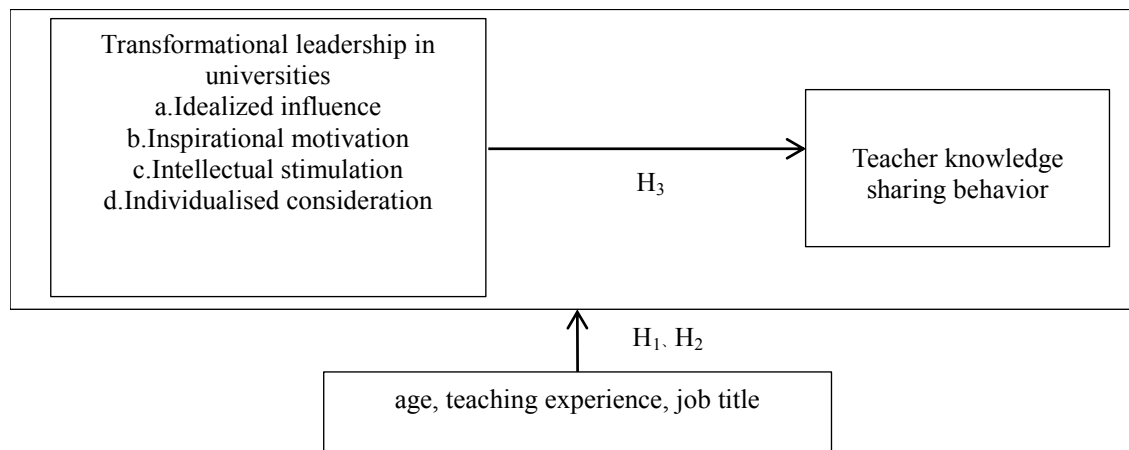
Figure 1. Research framework.
Source: Authors.

by Al-Husseini and Elbeltagi (2018). There are 8 items, which are scored on a 5-point Likert scale, with 1-5 representing "totally disagree" to "totally agree". The internal consistency was 0.830 and 0.900, respectively. In this study, the Chinese version of the Teachers' Knowledge Sharing Behavior Scale was developed using the back-translation method (Brislin, 1980), and the Cronbach's Alpha coefficient was 0.858.

Confirmatory factor analysis was used on formal scales to test reliability, validity, and goodness-of-fit. Factor loadings ranged from 0.717-0.850, and combined reliability (CR) values ranged from 0.851-0.875, which exceeded the evaluation criterion of 0.60. The average variance extracted (AVE) value was between 0.589-0.638, exceeding the evaluation standard of 0.50, indicating good reliability and validity (Bagozzi and Yi, 1988). In terms of goodness of fit, CMIN/DF=1.942, GFI=0.973, AGFI=0.949, RMR=0.024, SRMR=0.027, RMSEA=0.054, NFI=0.973, NNFI=0.980, CFI=0.987, RFI=0.961, IFI =0.987, PNFI=0.660, PGFI=0.514 All indicators meet the data requirements, indicating that the model fits well with the scale (Schumacker and Lomax, 2004).

Transformational leadership scale for colleges and universities

The transformational leadership scale developed by Zainal and Mohd Matore (2021) was used. There are 20 items, using a 5-point Likert scale for measurement, 1 means completely disagree and 5 means completely agree. The internal consistency is between 0.802-0.839 respectively. The Chinese version of the Transformational Leadership Scale in Colleges and Universities was compiled using the reverse translation method of Brislin (1980), and the Cronbach's Alpha coefficient was 0.924.

Confirmatory factor analysis was used to test the reliability, validity and fit of the formal scale. Factor loadings ranged from 0.694-0.816, and combined reliability (CR) values ranged from 0.862-0.877, exceeding the evaluation criterion of 0.60. The average variance extraction (AVE) value is between 0.566-0.610, which exceeds the evaluation standard of 0.50, and has good reliability and validity (Bagozzi and Yi, 1988). In terms of goodness of fit, CMIN/DF=2.070, GFI=0.916, AGFI=0.891, RMR=0.035, SRMR=0.043, RMSEA=0.057, NFI=0.910, NNFI=0.942, CFI=0.951, RFI=0.894, IFI =0.951, PNFI=0.777, and PGFI=0.704 are all higher than the minimum recommended by scholars, indicating that the fitting degree of the theoretical model is good (Schumacker and Lomax, 2004).

RESULTS

Descriptive statistics

A total of 350 questionnaires were distributed and 326 valid questionnaires were obtained. Among them, 62 people were under 30 years old, accounting for 19.018%, and 148 people were between 31 and 40 years old, accounting for 45.399%. 94 people were between 41 and 50 years old, accounting for 28.834%, and 22 people were over 50 years old. Accounting for 6.748%; 75 people with less than 5 years of teaching experience, accounting for 23.006%, 76 people with 6-10 years of teaching experience, accounting for 23.313%. 68 people from 11-15 years, accounting for 20.859%, 49 people from 16-20 years, accounting for 15.031%. 26 people in 21-25 years, accounting for 7.975%, 32 people in 26 years and above, accounting for 9.816%; in terms of professional titles, 48 teaching assistants, accounting for 14.724%, 136 lecturers, accounting for 41.718%, 125 associate professors, accounting for The ratio is 38.344%, and there are 17 professors, accounting for 5.215%.

Difference analysis

Difference analysis of different background variables in teachers' knowledge sharing behavior and transformational leadership in colleges and universities

A single factor analysis of variance (ANOVA) was used to investigate the differences between different background variables and teachers' knowledge sharing behavior and transformational leadership. From the analysis results in Table 1, it can be seen that there are significant differences among different ages in teachers' knowledge

Table 1. ANOVA table of different ages in teachers' knowledge sharing behavior and transformational leadership in colleges and universities.

Variable	Levene test	Age (years)	Average	Standard deviation	F	Hindsight comparison
Transformational leadership	2.364	<30	3.033	0.455	11.373***	1< 2, 1< 3, 1< 4, 2< 4, 3< 4
		31-40	3.282	0.555		
		41-50	3.432	0.565		
		>50	3.712	0.499		
Teacher knowledge sharing behavior	0.076	<30	2.998	0.704	15.146**	1< 2, 1< 3, 1< 4, 2< 4
		31-40	3.251	0.702		
		41-50	3.430	0.692		
		>50	3.431	0.756		

The Scheffe method was used for post-hoc comparison: **p<0.01 ***p<0.001. Age classification: 1=below 30 years old; 2=31-40 years old; 3=41-50 years old; 4=over 50 years old.
Source: Authors.

Table 2. ANOVA table of teachers' knowledge sharing behavior and transformational leadership in colleges and universities with different teaching ages.

Variable	Levene test	Teaching age (years)	Average	Standard deviation	F	Hindsight comparison
Transformational leadership	1.520	<5	3.100	0.535	4.485***	1< 2, 1< 3, 1< 4, 1< 5, 1< 6
		6-10	3.337	0.505		
		11-15	3.320	0.555		
		16-20	3.290	0.604		
		21-25	3.445	0.596		
		>26	3.610	0.531		
Teacher knowledge sharing behavior	0.152	<5	3.023	0.697	5.180***	1< 2, 1< 3, 1< 4, 1< 5, 1< 6, 2< 5, 2< 6
		6-10	3.180	0.687		
		11-15	3.343	0.717		
		16-20	3.336	0.685		
		21-25	3.326	0.666		
		>26	3.726	0.695		

The Scheffe method was used for post-hoc comparison. ***p<0.001. Note 3: Classification of teaching age: 1:less than 5 years; 2:6-10 years; 3:11-15 years; 4:16-20 years; 5:21-25 years; 6:26 years and above.
Source: Authors.

sharing behavior (F=15.146, p < 0.01) and transformational leadership in colleges and universities (F=11.373, p < 0.001). Scheffe method post-hoc comparative analysis showed that teachers in the age group over 50 had significantly higher scores than teachers in other age groups, and older leaders were rated more highly. Therefore, H1a and H2a are valid.

From the analysis results in Table 2, it can be seen that different teaching ages have significant differences in teachers' knowledge sharing behavior (F=5.180, p < 0.001) and transformational leadership in colleges and universities (F=4.485, p < 0.001). The post-hoc Scheffe method showed that teachers with 21-25 years of teaching experience and 26 years and above showed higher teacher knowledge sharing behavior. Teachers with longer teaching experience tend to demonstrate better transformational leadership skills. Therefore, H1b and H2b hold.

The analysis results in Table 3 show that, in terms of different professional titles, there are significant differences in teachers' knowledge sharing behavior (F=3.201, p < 0.05), but there is no significant difference in university transformational leaders (F=1.491). Post hoc Scheffe's method showed that lecturers, associate professors, and professors scored higher on teachers' knowledge sharing behavior than teaching assistants.

Table 3. ANOVA table of different professional titles in teachers' knowledge sharing behavior and transformational leadership in colleges and universities as a whole.

Variable	Levene test	Job title	Average	Standard deviation	F	Hindsight comparison
Transformational leadership	1.256	teaching assistant	3.186	0.647	1.491	-
		lecturer	3.282	0.535		
		Associate Professor	3.368	0.556		
		professor	3.402	0.549		
Teacher Knowledge Sharing Behavior	1.573	teaching assistant	3.010	0.757	3.201*	4>1
		lecturer	3.288	0.709		
		Associate Professor	3.304	0.712		
		professor	3.559	0.536		

The Scheffe method was used for post-hoc comparison. *$p<0.05$. Title classification: 1: teaching assistant, 2: lecturer, 3: associate professor 4: professor.
Source: Authors.

Table 4. Correlation analysis (N=326).

Variable	M	SD	Transformational leadership	Teacher knowledge sharing behavior
Transformational leadership	3.307	0.562	1	
Teacher knowledge sharing behavior	3.267	0.716	0.386***	1

***$p<0.001$.
Source: Authors.

Therefore, H1c is established, and H2c is not established.

Correlation analysis

The Pearson correlation coefficient analysis in Table 4 shows that the knowledge sharing behavior of teachers in Anhui universities is positively correlated with transformational leadership (r=0.386, p<0.001); and the correlation between all variables is significant (p<0.001). Without high correlation, there is no collinearity problem (Maruyama, 1998). The mean values for teachers' knowledge sharing behavior and transformational leadership were (M=3.307, SD =0.562), (M=3.267, SD =0.716), respectively. The overall situation of teachers' knowledge sharing behavior and transformational leadership is above the median of 3 on the 5-point scale, indicating that the knowledge sharing behavior and transformational leadership of teachers in Anhui colleges and universities are at the upper-middle level.

The AVE square root of each facet is greater than the number of correlation coefficients of each facet, accounting for more than 75%, which meets the criteria for evaluating the differential validity (Hair et al., 1998). According to the result data in Table 5, both of the two dimensions have good discriminative validity. The square

root of AVE of all dimensions can meet the judgment criteria, indicating that the scale has good discriminative validity (Capron, 1999).

Regression analysis

In this study, the demographic variables of age, teaching experience and professional title are included in the first layer; idealized influence is in the second layer; inspirational motivation is in the third layer; intellectual stimulation is in the fourth layer; Enter the model as Enter at each step. It can be seen from Table 6 that the adjusted R2 of model 1 is 0.066, and the overall explanation rate is 6.6%. Model 2 controls background variables (β = 0.288, t = 5.395, p<0.001), and the adjusted R2 is 0.143, and the overall explanation rate was 14.3%. Model 3 controls background variables (β = 0.251, t = 4.525, p<0.001), the adjusted R2 is 0.120, and the overall explanation rate is 12.0%. Model 4 controls background variables (β = 0.342, t = 6.405, p<0.001), the adjusted R2 is 0.172, and the overall explanation rate is 17.2%. Model 5 controls background variables (β = 0.127, t = 2.310, p<0.05), the adjusted R2 is 0.079, and the overall explanation rate is 7.9%. The five dimensions of transformational leadership in colleges and universities

Table 5. Discriminant validity test table.

Dimension	1	2	3	4	5	6
Idealized influence	0.781[a]					
Inspirational motivation	0.446	0.752[a]				
Intellectual stimulation	0.381	0.375	0.753[a]			
Individualised consideration	0.453	0.483	0.455	0.766[a]		
Knowledge donation	0.302	0.244	0.317	0.138	0.767[a]	
Knowledge collection	0.287	0.305	0.356	0.166	0.609	0.798[a]

The value of the diagonal line a, is the square root of the average variation extraction (AVE) of each facet, which should be greater than the value of the off-diagonal line. The correlation coefficients between each facet are significant three stars.
Source: Authors.

are all significant positive predictors of teachers' knowledge sharing behavior.

DISCUSSION

The results of the study show that different ages have significant differences in transformational leadership and teachers' knowledge sharing behavior in colleges and universities. The score of the group over 50 years old is significantly higher than that of the 31-40 and 41-50 age group, which is consistent with the research results of Baba et al. (2021). The possible reason is that as people grow older, their experience and knowledge reserves also increase, they will appreciate and pay more attention to the necessity of transformational leadership, and the need for and recognition of transformational leadership will also increase. Teachers aged 31-40, 41-50 and over 50 have higher knowledge sharing behavior scores than teachers under 30. As you grow older, your experience and knowledge in teaching will increase, and you will be more inclined to share and communicate. In addition, there is increased professional stability, which may make them more motivated to share knowledge and experience.

Different teaching ages have significant differences in transformational leadership and teachers' knowledge sharing behavior in colleges and universities. Teachers with 21-25 years of teaching experience and 26 years and above have significantly higher perception scores for transformational leadership than those with 6-10 years of teaching experience. This result is consistent with that of Baba (2022). With the increase of teaching years, the understanding and understanding of teaching and academics will become deeper, and the recognition and support for transformational leadership will become more obvious. In terms of knowledge sharing, the average score of teaching age of 21-25 years and 26 years and above is higher than that of teaching age of 6-10 years, which is consistent with the research results of Cui and Wang (2020). Teachers with longer teaching experience

are likely to participate in knowledge sharing behaviors, have accumulated more experience and knowledge in their work, and are more likely to serve as subject leaders or other leadership roles, thus having more opportunities to share their knowledge and experience.

Different titles have significant differences in teachers' knowledge sharing behavior, and the average scores of associate professors and professors are significantly higher than those of teaching assistants and lecturers. This result is consistent with Baba's (2022) research results. In terms of knowledge sharing, professors and associate professors scored the highest, followed by lecturers and teaching assistants. Professors are better at knowledge sharing, while teaching assistants are relatively poor. Professors pay more attention to academic exchanges and cooperation, and are more willing to share knowledge and resources, while teaching assistants may pay more attention to their own career development and interests. There is no significant difference in transformational leadership, which may vary due to factors such as the specific conditions of Anhui universities, professional title evaluation standards, and personal abilities. Different professional titles may have differences in leadership ability and quality, and will receive different resources and support. Universities regulations and power structures may also have an impact. Therefore, the differences caused by control variables can be considered in the development of university teachers' knowledge sharing behavior, which is more conducive to the development and improvement of university teachers' knowledge sharing behavior.

The study also found that teachers' perceptions of transformational leadership in colleges and universities had a statistically significant effect on teachers' knowledge sharing behavior, indicating that teachers' perceptions of transformational leadership had a positive impact on knowledge sharing behavior, which meant that teachers with higher perceptions of transformational leadership Teachers will have higher knowledge sharing behavior performance. This result is consistent with the findings of Al-Husseini and Elbeltagi (2018).

Table 6. Regression analysis of background variables and various dimensions of transformational leadership in colleges and universities on teachers' knowledge sharing behavior (N=326).

Parameter	Teacher knowledge sharing behavior									
	Model 1		Model 2		Model 3		Model 4		Model 5	
	β	t	β	t	β	t	β	t	β	t
Under 30 years old	-0.129	-1.287	-0.043	-0.442	-0.057	-0.575	0.009	0.091	-0.095	-0.938
31-40 years old	-0.059	-0.524	-0.003	-0.023	-0.028	-0.253	0.076	0.701	-0.024	-0.207
41-50 years old	0.000	0.004	0.034	0.3410	0.001	0.009	0.106	1.066	0.022	0.215
Under 5 years	-0.345	-3.649***	-0.318	-3.504***	-0.272	-2.921**	-0.257	-2.855**	-0.324	-3.43***
6-10 years	-0.277	-2.936**	-0.268	-2.964**	-0.246	-2.689**	-0.239	-2.683**	-0.263	-2.808**
11-15 years	-0.198	-2.249*	-0.190	-2.252*	-0.146	-1.695	-0.152	-1.824	-0.176	-1.997*
16-20 years	-0.174	-2.137*	-0.156	-2.003*	-0.120	-1.501	-0.145	-1.887	-0.155	-1.904
21-25 years	-0.142	-2.014*	-0.149	-2.204*	-0.099	-1.436	-0.143	-2.144*	-0.136	-1.942
Teaching assistant	-0.086	-0.819	-0.075	-0.748	-0.107	-1.052	-0.123	-1.248	-0.090	-0.862
Lecturer	0.009	0.071	0.032	0.252	-0.025	-0.198	-0.030	-0.244	0.002	0.018
Associate professor	-0.036	-0.287	-0.033	-0.273	-0.063	-0.512	-0.069	-0.574	-0.044	-0.348
Idealized influence			0.288	5.395***						
Inspirational motivation					0.251	4.525***				
Intellectual stimulation							0.342	6.405***		
Individualised consideration									0.127	2.310*
F	3.086***		5.507***		4.710***		6.608***		3.312**	
△R^2	0.066		0.143		0.120		0.172		0.079	
R^2	0.098		0.174		0.153		0.202		0.113	

p<0.05, p<0.01, p<0.001. Age reference group (over 50 years old), teaching age reference group (26 years and above), professional title reference group (professor).
Source: Authors.

Transformational leaders in colleges and universities can motivate and encourage teachers to share knowledge, strengthen cooperation and communication among teachers, and improve organizational innovation and learning capabilities through their personal behavior and speech (Zuraik and Kelly, 2018). Therefore, hypothesis H3 holds.

Conclusion

The empirical study found that different background variables of university teachers exhibit significant differences in teachers' knowledge sharing behavior and university transformational leadership. As individuals' age and teaching experience increase, their recognition and support for transformational leadership become more pronounced. Furthermore, those with more experience and knowledge at work tend to have greater opportunities for knowledge and experience sharing. They also possess a higher degree of freedom and a sense of responsibility in teaching, research, and management, making them more likely to engage in knowledge-sharing behaviors. Analyzing the differences brought about by the control variables will aid in formulating strategies for cultivating and developing knowledge sharing behaviors among college teachers.

In colleges and universities in Anhui, China, teachers' perception of transformational leadership has a significant positive impact on knowledge sharing behavior. In practice, transformational leadership in colleges and universities embodies attitudes and behaviors that support, motivate, and encourage teachers' knowledge sharing

behaviors, thus fostering the occurrence of such behaviors (Fullwood et al., 2013). Therefore, it is essential to consider the influence of transformational leadership on university faculty's knowledge sharing behavior. Transformational leaders in colleges and universities can provide teachers with support and resources to help them excel in their tasks (Yukl, 2010), further facilitating knowledge sharing among teachers. This conclusion offers a crucial reference point for university administrators and contributes to the promotion of teachers' knowledge sharing behavior.

Recommendations

This research is conducted within the context of colleges and universities in Anhui Province, utilizing a questionnaire survey as the research method. Due to time and budget constraints, the selected samples predominantly consist of individuals from various colleges and universities within Anhui Province, resulting in potentially limited sample data comprehensiveness. Future research could expand its scope to include empirical studies across different regions and among diverse types of college teachers. Additionally, considering the development of a subsequent scale for assessing individual university faculty's knowledge-sharing behavior within the Chinese context may also be worth exploring.

In the era of the knowledge economy, colleges and universities bear the crucial responsibility of imparting knowledge and nurturing new talents. Knowledge sharing among teachers has emerged as an effective approach for enhancing teaching quality and core competitiveness. In future research, it would be valuable to investigate other background variables, influencing factors, and mechanisms of action to enrich knowledge management theories in universities, thus enhancing teachers' teaching and research capabilities, as well as knowledge innovation capabilities. This endeavor will contribute to elevating the overall innovation and competitiveness levels of colleges and universities, carrying significant positive implications.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

ACKNOWLEDGEMENT

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Short Communication

Leader's duties in an effectıve schools

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In this study, the aim is to reflect the perspectives of education stakeholders regarding the leader's duties in creating an effective school within the context of organizational culture. In this regard, existing studies in the literature on the interaction between corporate or school culture and leadership have been compiled. As a result, it was concluded that the team leader should adopt the concept of culture, have values, and support elements such as communication and cooperation to create and strengthen an effective and qualified organizational-school culture.

Key words: Effective school, organizational culture, leadership.

INTRODUCTION

It is accepted that the first studies on organizational culture started in the 1930s. The human relations movement emphasized human resources in organizations, and attention was drawn to issues such as informal group groups, group norms, symbols, and organizational values (Şişman, 2002). The pattern of basic assumptions allows them to determine the accepted method, act together, and adapt to familiarstakeholders. One of the most emphasized issues in the analysis of the productivity of organizations is organizational culture, which has gained importance in management science, and research in this field has increased (Çelik, 1997). It is seen that the concept is handled with different definitions and explanations in studies on organizational culture. Organizational culture is a combination of the characteristics of the organizations arising from their own purpose and activity structure and social values. Corporateculture is a field of study of organizational behavior, and organizational

behavior is the systematic examination of people's actions and attitudes within the organization (Gordon, 1993). One of the most striking parts ofstudies on school culture is the strong and weak school culture characteristics. According to Hollins (1996), schools are shaped within the framework of cultural practices and values and reflect the norms of the society in which they live. When robustschool culture features are examined, it is seen that students are more motivated to learn and teachers are more motivated to teach in these schools (Stolp, 1994). In other words, organizational culture is the pattern of basic assumptions in which a particular community can adapt to the environment and determine the accepted method to solve the problems that will arise in their group order, acting together, and adapting to common stakeholders.

While Şişman (2010) states thatschool culture isthe standardideas, goals, symbols, values, and- beliefs of the individuals who are stakeholders together in the school

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environment, Butler and Dickson (2001) also describe school culture as the values and norms that guide staff and students on the way to successful education and training in general (Eyüboğlu, 2006). According to Çelikten (2003), school culture is the fundamentalbeliefs, values, norms, symbols, and practices shared by school members. Balcı (2011) on the other hand,He says that the history and traditions of the school, the knowledge and mutual interactions of the school personnel, have formed a school-specific culture over time. In its most general definition, school culture is the whole of material and spiritual elements that form the school's identity and affect the behavior and actions of all individuals in the school (Gümüşeli, 2006).

It is seen that direct studies on effective schools and effective school principals in Turkey started in the 1990s. Hacifazlioglu (2011). Being an effective school does not mean having more resources; it means achieving better results with available resources. An effective school entails a constant emphasis on what is fundamental to education in school. Teaching, and performance improvement is seen as the school's primary task. According to Lezotte (1991), an effective school is that all students who attend the school make the most of the given programs; in other words, the prepared program reaches the desired goal. In many studies, effective school dimensions show standardfeatures. Edmonds (1979) emphasizes that effective schools have five characteristics:

1) Effective schools should clearly state their educational goals. Effective schools should make systematic evaluations in specific and general dimensions,
 2) In effective schools, there is an expectation that all students can learn well,
 3) An effective school has a safe climate that encourages teaching and learning,
4) Effective schools have principled educators. The following dimensions were obtained in the research conducted by Cheng and Wong (1996) to determine effective school characteristics in many schools in Asia:
5) Support of the environment.
6) Professionalization of the teacher.
7) Orientation towards quality in all aspects of the school.
8) High expectations for success.

In his research, Cheng (1993) emphasizes that strong school cultures motivate teachers better. If the school has a positive culture, it is believed that an effective learning process will take place in that school. At the same time, it is stated that in schools with strong cultures, members are transparent to each other, act together in the face of uncertainty, act in cooperation, and there is sincere and lively communication between them. On the other hand, it is thought that in a school with a hostileculture, professional learning does not occur as a value, and there will be resistance to change (Fullan, 2011).

When the relevant literature is examined, it is seen that different aspects of leadership are discussed in the definitions related to leadership. Leadership is sometimes used as a personality trait, sometimes as a quality of a specific position, and sometimes as a type of behavior. According to some of these definitions, leadership influences people to achieve a common goal (Stogdil, 1974). According to Krausz (1986), leadership is a form of power used to control the activities of others (Yalcinkaya, 2002).

There are indications that for a school culture to be formed, the culture of the institution where the leader is located must be adopted and that belonging, norms, and values can be created by transferring it to the employee of the organization. It has been stated in the studies that the leader should have sufficient equipment and ensure the continuity of the corporate culture by creating a school climate. For example, Çelikten (2003) mentioned the importance of the role of the principal in the formation of school culture.

On the other hand, studies continue to show that the school principal's understanding of culture affects school culture. Findings that the leader creates the school management and team leadership school culture and that the team leader is the most important person and significantessential problem in making the corporate culture are frequently encountered in the literature. Similarly, Çetin (2021) talks about the positive effect of the leader on the formation of corporate culture and lists it as follows:

1 Schoolculture is formed when all stakeholders adapt to school rules and climate.
2. School culture emerges when those involved begin to act according to the school's functioning and values.
3. School culture is an interaction environment where the values of the institution's employees are reflected with the effect of the vision, mission, and physical facilities.
4. School culture results from knowledge and experience accumulated at school over the years.
5. School culture is a phenomenon that determines and shapes the 'chool's activities.
6. School culture is associated with ideology, values, beliefs, expectations, and norms.
7. School culture is the whole of the systems that a school carries from the past to the future.
8. School culture is the integrity of belief that creates a sense of belonging in activities that increase the work quality of employees.
9. School culture is the set of values, beliefs, and norms that are formed and shared with the support of educational leaders, education staff, and school support staff.
10. School culture includes all stakeholders involved in the school climate to share commonvalues.
11. School culture is the whole of the ways, methods, and attitudes drawn while constructing the school's identity.

Based on these studies, it can be concluded that the team leader does not adopt the concept of culture and negatively affects the formation of school culture. Team leaders may be the most crucialessentialperson or potential problem in shapeforming corporate culture. In addition, factors such as excessive discipline, immaturity in the socio-cultural and economic structure, poor communication, low-motivated individuals, lack of planning, constant management and staff changes, and inability to create a sense of belonging can be listed among other hindering factors in the formation of school culture. Demographic and socioeconomic structures of students and parents and the geographical region of the school can be counted among the situations that may pose an obstacle to the formation of school culture.

As a result, it shows that the leadership role and managerial leadership are of great importance in forming school culture, and communication, motivation, sharing values, cooperation, continuity, and stability are also influential. In addition, it should not be forgotten that methods and attitudes should be determined while constructing the school's unique identity. In summary, the team leader needs to adopt the concept of culture, to have values, and to support elements such as communication and cooperation to create and strengthen an influentialadequateand qualified institution. In addition, factors such as discipline, communication, motivation, internalization of values, and continuity are also important factors that affect the formation of school culture.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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Full Length Research Paper

Research on interpersonal interaction and school adaptation of the new second-generation vocational high school students in Taiwan: A moderated mediating model

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As the population of new residents in Taiwan continues to increase due to the increasingly severe trend of having fewer children, the life and school adaptation of the second generation of new residents in vocational high school (VHS) has received significant attention. This study explores the correlation between interpersonal interaction and school adaptation of Taiwan's new second-generation VHS students. Based on the "Cultural Identity" theory, this study proposed a hypothetical model with "self-identity" as the mediating variable and "perceived organizational support" as the moderating variable. This study collected 60 questionnaires from second-generation VHS students in Nantou County, Taiwan, using a purposive sampling technique in June 2023. The author adopted the Hayes' (2022) SPSS 20 PROCESS procedure to verify the mediation and moderation effects. The result of this study contributes to the literature on multiculturalism and applied psychology. Based on first-hand data collection and statistical analysis, the vital conclusions are as follows: 1. the "interpersonal interaction" of the new second-generation VHS students can effectively predict their "school adaptation"; 2. the "self-identity" of the new second-generation VHS students has presented an excellent mediating role between "interpersonal interaction" and "school adaptation"; 3. "Perceived organizational support" plays an excellent moderating role in the relationship between "interpersonal interaction" and "self-identity" 4. Incorporating "interpersonal interaction," "self-identity," and "perceived organizational support," the hypothetical model could effectively predict the "school adaptation" behavior of the new second-generation VHS students.

Key words: Interpersonal interaction, school adaptation, self-cognition, immigration, vocational high school.

INTRODUCTION

As internationalization becomes increasingly open, technologically advanced countries mainly adopt available immigration policies to compensate for the lack of labor force due to their population shortage. For example, Germany immigrated 26% of its total population in 2022 (Gries et al., 2022); the United States immigrated 11.9%

in 2015 (Valdez, 2018). As of June 2023, Taiwan's new resident population has increased by more than 530,000, accounting for 2.27% of the total population (Ministry of the Interior, Taiwan, 2023). New residents have become the largest group of Taiwan's emerging population.

New residents usually show strong adaptability and strive to build "intercultural competence" in order to integrate into Taiwanese society (Wu et al., 2009; Sarli and Phillimore, 2022; Aradhya et al., 2023); however, Taiwanese people's acceptance of new residents' culture is still in a conservative state. In other words, the cultural integration between the Taiwanese and the new residents needs to strengthen (Wang and Lin, 2009). Therefore, finding an effective way for the new residents to recognize and reconcile with Taiwan society and how to guide the "second generation of new residents" to build cross-cultural competence have become vital issues facing Taiwanese society.

In a multicultural society, "culture identity" is the process of identity for the young generation (Aradhya et al., 2023; Bouchet, 1995; Kazakbaeva, 2002), and might eventually contribute to the "self-identity" of the juvenile through "interpersonal interaction" and "school adaptation" (Liu and Lin, 2012; Zhang et al., 2021). Many researchers have examined the relationship between "interpersonal interaction" and "school adaptation" (Beatson et al., 2023; Kar and Kar, 2023; Yu et al., 2022). However, studies analyzing the internal relationship mechanism between these two variables are scary. Therefore, based on high school pluralistic education, this study uses a questionnaire survey to investigate new second-generation vocational high school (VHS) students in Taiwan to explore further the relationship between "interpersonal interaction" and "school adaptation" and its internal mechanism (the mediating role of self-identity and the moderating role of perceived organization support) and intends to provide concrete suggestions to improve the "school adaption" of new second-generation VHS students by constructing a moderating mediation model.

Research objectives

Based on the above research motives, the objectives of this study are as follows:

1) To explore the influence of "interpersonal interaction" on "school adaptation" of the new second-generation VHS students.
2) To explore whether the "self-identity" of the new second-generation VHS students plays a mediating role in the impact model of "interpersonal interaction" on "school adaptation."
3) To explore whether "perceived organizational support" has a moderating effect on the relationship among "interpersonal interaction," "self-identity," and "school adaptation" of the new second-generation VHS students.

Research scope and limitations

This study uses the purposive sampling technique to select students from a high school in Nantou County. According to the needs of the research purpose, this author distributed 60 questionnaires to the new second-generation students of the school's five major technical occupations (fashion, catering, baking, leisure travel, and auto repair). Due to the limitations of the sampling population and research objects, readers who plan to use the results of this study for subsequent use should be cautious.

LITERATURE REVIEW

To establish the theoretical basis of this study, this author reviews and analyzes related literature on critical variables, including (1) the "self-identity," the intermediary variable role, in how "interpersonal interaction" impacts the "school adaptation" of the new second-generation VHS students. (2) the moderating effect of how "perceived organizational support" moderates the relationship among "interpersonal interaction," "self-identity," and "school adaptation" of the new second-generation VHS students. For the convenience of the readers, the subsections include the influence of interpersonal interaction of the new second-generation VHS students on school adaptation, the self-identity of the new second-generation higher vocational students-the intermediary variable, and the moderating effect of "perceived organizational support," which are summarized as follows:

The influence of interpersonal interaction of the new second-generation VHS students on school adaptation

Maslow's (1978) "need-hierarchy theory" advocated that after the "physiological" and "safety" needs are satisfied, human beings will have expectations for "love." Love and belonging to the VHS school students; this level of needs belongs to interpersonal interaction. Cai (2002) research pointed out that the interaction between the individual and social culture is inseparable. The corresponding cultural structure must be obtained through continuous participation in social life to interpret the study and life experience reasonably. In other words, establishing a good "interpersonal interaction" situation in vocational education can meet the needs of students for love and belonging.

Regarding vocational education students, interpersonal relationship is a dynamic response, which is the interaction and emotional response between peers and teachers of VHS students to meet the psychological needs of love and belonging (Zhang, 1997). Research by Zhang et al. (2021) pointed out that there is a positive correlation between "school adaptation" and

"interpersonal relationships"; Zhang also pointed out that "interpersonal relationships" will directly affect students' "school adaptation." Therefore, the excellent peer interaction of VHS students in school is conducive to their "learning adaptation" in school.

The self-identity of the new second-generation higher vocational students - the intermediary variable

"Self-identity" was proposed by Erik Erikson, who believed that "self-identity" refers to a person's self-identification, self-creation, and self-belonging in a specific environment (Beatson et al., 2023; Yuan, 1996; Zhang, 2007; Chen, 2005); that is, "self-identity" means that when an individual clearly understands their conditions and abilities, understands their own needs for love and affiliation, and accordingly moves toward their own career goals and ideals, strive for awareness of self-actualization.

The mediating effect of the "self-identity" theory

From the perspective of developmental psychology, the new second generation of higher vocational students belongs to the stage of adolescent development. Adolescents' "self-identity" development is often affected by relevant events in life, living environment, and daily learning. Erikson (1980) pointed out that teenagers aged 13 to 19 will continue to experience various "developmental crises" in self-learning and development. Vocational education students are at this age. Such as: "I am experiencing the challenges of identity versus role confusion and a strong sense of group belonging" or "I hope to gain support through interpersonal interaction with peers" to construct "Who am I?" concepts of self-identity to achieve adaptation to school life (Liao and Lian, 2012; Chen et al., 2005). Deslandesa et al. (2022) used the "Adoption Host Culture" strategy in English teaching and found that the improvement of self-identity can enhance the peer relationship of the new second-generation students, thereby enhancing communication and improvement in learning. Thus, if the school adopts an effective "self-identity" strategy for the new second-generation students in vocational education, it can develop a positive "self-identity" and establish a good "interpersonal relationship," thereby improving a good "school adaptation" (Xie et al., 2018; Simonsen and Rundmo, 2020; Virtanen et al., 2020).

The influence of "self-identity" on "school adaptation" of the new second generation of vocational students

Merton (1938) believed that when humans face stressful situations, five adaptation strategies may be adopted:

innovation, ritualism, retreatism, rebellion, and conformity. Usually, relationship adaptation difficulties may happen after students enter high school, leading to social isolation (Matthews et al., 2015). One of the school's critical educational goals is to assist students in their socialization. Therefore, the vocational education system and connotation contain different degrees of socialization purposes and functions, aiming to let students understand the differences between people to complete the socialization process (Yu et al., 2022; Liu and Lin, 2012; Song, 2006; Wu, 2000). Zhang et al. (2021) pointed out that positive "interpersonal relationships" will directly affect students' "school adaptation"; the study pointed out that the reason why "interpersonal relationships" can improve students' "school adaptation" is simply because good school adaptation, It will increase students' "level of social support," thereby constructing a positive sense of self-identity, and then inevitably affect students' "school adaptation."

The influence of "interpersonal interaction" on "self-identity" of the new second generation of higher vocational students

The "interpersonal interaction" between VHS students and their peers and teachers is closely related to their "self-identity" (Lin, 2012). Meiling's (2016) research pointed out that the daily "interpersonal interaction" of vocational education students has a considerable degree of predictive power for their "self-identity." Thus, the "self-identity" of vocational education students may be affected by "interpersonal interaction." Poling et al. (2022) pointed out that if vocational education students can establish good interpersonal relationships in school, it will positively impact their "self-identity."

The moderating effect of "perceived organizational support"

"Cultural identity" is the process of identity formation (Hu and Dai, 2021; Aradhya et al., 2023; Bouchet, 1995; Kazakbaeva, 2022). Transnational marriages contribute to multiculturalism. The couples of transnational marriages must adapt to the new environment and construct a sense of "self-identity" for the new residents (Beatson et al., 2023; Oswald, 1996; Sarli and Phillimore, 2022). Usunier (1996) pointed out that the "self-identification" of new residents is a process of assimilation and internalization, emphasizing that the values, standards, and social expectations of the host country should be internalized in the self-concept of new residents. In order to integrate into the new environment, the new residents must "do as the Romans do when they enter the country." However, it is also essential for the people of the immigrant country to accept and integrate

into the multicultural integration (Pan, 2011; Donnaloja and McAvay, 2022).

"Perceived organizational support" was proposed by Eisenberger (1986). The "cultural identity" theory points out that those individuals in the organization feel the overall support for their integration into the culture of the immigrant country and thus think about whether the relevant institutions of the immigrant country value new residents and newcomers. In this study, "perceived organizational support" refers to the new second-generation VHS students studying in vocational schools feeling the school or community based on cultural identity and showing a degree of support and care for themselves.

Some related studies have pointed out that the multiple activities, advocacy, and care of the government, schools, and non-governmental organizations for new residents and the new second generation of care and cultural integration have a moderating effect on the "self-identity" of the new second generation of vocational students (Su and Jiang, 2023; Wang, 2014; Yang, 2021; Zhuo and Gao, 2022; Kastoryano, 2018; Chen, 2008). To realize this idea, the Taiwanese government has long been emphasizing the promotion of multicultural policies and promoting the life, employment, and cultural activities of new residents in the host country (Foresight Magazine, 2019; Small World News Week, 2022; Valdez, 2018).

Based on the above literature review, this study speculates that some "perceived organizational support" based on cultural identity buffers and regulates the "self-identity" of the new second-generation VHS students while studying and growing up. Will the new second-generation VHS students with higher "perceived organizational support" will gain better "interpersonal interaction," "self-identity," and "school adaptation" than those with lower "perceived organizational support"?

With the implications of reviewing the literature, this author made conclusions as follows: 1) In the vocational education environment, the "school adaptation" of the new second-generation VHS students is directly affected by the "interpersonal relationship" while the "self-identity" is to some extent based on sound "interpersonal interaction." However, whether "self-identity" plays a mediator role is still worth further exploration. 2) In the vocational education environment, to meet their emotional, love, and belonging needs, the new second-generation VHS students will strive to seek organizational support in their environment to establish and form their unique interdependent relationships. Are the new second-generation VHS students with higher "perceived organizational support" better than those who are with lower "organizational support" in terms of "interpersonal interaction," "self-identity," and "school adaptation"? In addition, does "perceived organizational support" moderate the effect of "interpersonal relationship" on "school adjustment"? Furthermore, whether "perceived organizational support" can moderate the impact of "self-identity" on "school adjustment"? These moderating and meditating roles are worthy of further examination.

RESEARCH DESIGN AND IMPLEMENTATION

Research design

Instrument development: To verify the proposed hypothetical model, this author employed a self-administered questionnaire to gather first-hand data. Before developing the research instrument, the author conducted a review of the following scales and studies: "Research on School Life Adaptation and School Support System of Visually Impaired Students in Ordinary Senior Vocational High Schools" (Zhang, 2003), "Research on the Relationship between High School Students' Interpersonal Attraction and School Life Adaptation" (Li, 2008), "Self-identity, Role Identity, Organizational Identity, and Work Performance Correlation Research," "Exploring the Impact of Perceived Support Activities on Online Collaborative Learning on Learning," and "Exploring the Moderating Effect of Perceived Organizational Support on Human Resource Management Measures and Organizational Performance" (Tao, 2011).

After reviewing the aforementioned scales, the author compiled a questionnaire titled "Research on Interpersonal Interaction and School Adaptation of the New Second-Generation Higher Vocational Students: Self-Identity as the Mediating Model." This questionnaire includes the following constructs: "perceived organizational support," "interpersonal interaction," "self-identity," and "school adaptation." The questionnaire employs a 5-point Likert scale, with responses ranging from 1 for "strongly agree" to 5 for "strongly disagree.

Instrument validity and reliability: During the questionnaire preparation, three scholars and experts participated in the review and revision, ensuring its expert validity. Additionally, this study invited 30 VHS students to participate in a pre-test to assess its reliability, which is further discussed, including the Cronbach's reliability coefficient test.

Research objects and sampling

The original thinking of the study is a case study. The author set a target group on the second-generation vocational high school (VHS) students in Nantou County, Taiwan, and selected the sample from a VHS. In Taiwan's rural area, the amount of target groups, second-generation VHS students, is limited. Through informed consent by their parents, this study used a "purposive sampling technique" to select 60 new second-generation students in a small VHS in Nantou County, Taiwan, as the research object and distribute questionnaires in June 2023. A total of 60 valid questionnaires were collected.

Data analysis

The data collected from the questionnaire survey was processed using SPSS 20 and the PROCESS procedure created by Hayes (2022) for intermediary effect and moderating examination.

Research hypothesis and framework

To achieve the purpose of this research, the author explored and collected scholars' opinions through a relevant literature review, then constructed the framework diagram, a hypothetical model, of this research (as shown in Figure 1).

The detailed process that the author completed in this model development is as follows. (1) Initially, the author reviewed the literature based on the problem statement and the research objectives. (2) After a causal-effect relationship examination, the
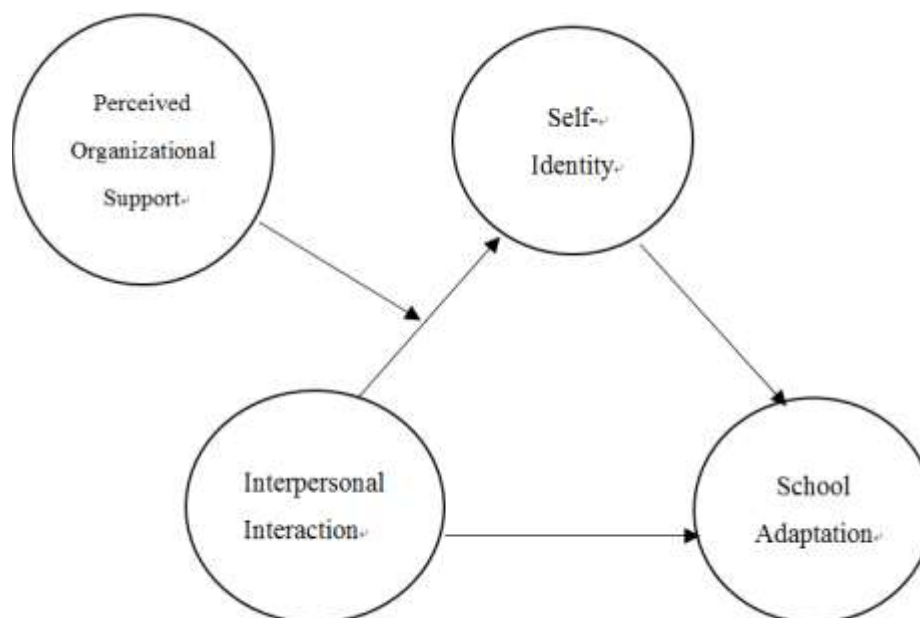
Figure 1. The proposed hypothetical model.
Source: Author.

Table 1. Cronbach's Alpha value of the survey instrument scale in this study.

Reliability statistics	
Cronbach's Alpha	**Items**
0.96	60

author then concluded an arena of hypothetical model framework.

Among them, the "interpersonal interaction" of the new second generation may directly affect their "school adaptation"; the "self-identity" of the new second generation may affect "school adaptation"; the "interpersonal interaction" of the new second generation may affect "self-identity" and further affect "school adaptation." That is, "self-identity" may have a mediating role between "interpersonal interaction" and "school adaptation." "Perceived organizational support" may play a moderator role in "interpersonal interaction," "self-identity," and "school adaptation" of the new second-generation VHS students. According to the essential model variables, then put forward the Null Hypotheses as follows:

H1: The "Interpersonal interaction" of new second-generation VHS students has no significant effect on "school adaptation."
H2: The "self-identity" of the new second-generation VHS students has played no mediating role in the impact model of "interpersonal interaction" on "school adaptation."
H3: The "perceived organizational support" has played no moderating effect on the relationship among "interpersonal interaction," "self-identity," and "school adaptation" of the new second-generation VHS students.

RESULTS AND DISCUSSION

This study conducted a questionnaire survey on the new second-generation students. Based on the purposive sampling technique, this author distributed sixty questionnaires to the students, and 60 valid questionnaires were received. The analysis is as follows.

Reliability analysis

The Cronbach's Alpha value of the self-compiled questionnaire "Research on Interpersonal Interaction and School Adaptation of the New Second-Generation Higher Vocational Students" is 0.96, showing the reliability of the research tool. Table 1 shows the reliability analysis of this instrument.

Correlation analysis

Using SPSS 20, under the condition of controlling age and gender, this study carried out the descriptive statistical correlation analysis as shown in Table 2.

The correlation analysis in Table 2 shows that the "interpersonal interaction," "school adaptation," "self-identity," and "perceived organizational support" of the

Table 2. Statistical results and correlation analysis of each variable description (*N*=60).

Variable	M	SD	1	2	3	4
Interpersonal Interaction	1.7813	0.5997	1			
School Adaptation	2.1478	0.5127	0.776***	1		
Self-Identity	2.228	0.6143	0.724***	0.797***	1	
Perceived Organizational support	2.4766	0.7046	0.494***	0.624***	0.911***	1

Source: Author ***p<0.001 **p<0.01 *p<0.05.

Table 3. Using SPSS PROCESS Model 4 to test the mediating effect of "self-identity" in the hypothetical model.

Variable	Model 1: School adaptation		Model 2: Self-identity		Model 3: School adaptation	
	β	t	β	t	β	t
Age	-0.11	-0.89	-0.41	-1.88	0.06	1.21
Sex	-0.24	-3.6	-0.23	-6.32	0.06	0.84
Interpersonal Interaction	0.66	9.38***	0.74	8.00***	0.36	4.10***
Self-Identity					0.41	4.86***
R^2	0.60		0.53		0.72	
F	87.90		64.05		72.87	

Source: author. all variables in the model are standardized variables into the regression equation.

new second-generation VHS students have all reached highly statistically significant correlations (p < 0.001).

Test the mediating effect of "self-identity" in the research model

Using the SPSS 20 PROCESS model 4 created by Hayes (2022), under controlling the age and gender, this study has done the mediating "self-identity" effect test of the new second-generation VHS students. Table 3 shows the results.

The results in Table 3 have significant meanings as follows: 1. "Interpersonal interaction" can significantly predict "self-identity" of the new second-generation higher vocational students (β=0.74, p<0.001); 2. "Interpersonal interaction" and "self-identity" can significantly predict "school adaptation" (β=0.36, β=0.41, p<0.001); 3. "Interpersonal interaction" can significantly predict "school adaptation" (β=0.66, p<0.001); Three path coefficients of the proposed hypothetical model have all reached highly statistically significant levels. This study found that the null hypothesis "H1: "Interpersonal interaction" of the new second-generation VHS students has no significant impact on "school adaptation" has been overturned. The null hypothesis of "H2: "Self-identity" of the new second-generation VHS students has no intermediary role in the influence of "interpersonal interaction" on "school adaptation." This finding established that the "interpersonal interaction" of the new second-generation VHS students on " "School adaptation" has a significant impact, and the "self-identity" of the new second-

generation VHS students plays a mediating role in the impact of "interpersonal interaction" on "school adaptation."

Test the moderating effect of "perceived organization support" in the research model

This study uses the SPSS PROCESS model 7 provided by Hayes (2022), under the control of age and gender, to verify the role of "perceived organizational support" (POS) of the new second generation of VHS students in moderating the relationship among POS and "interpersonal interaction" and "self-identity," and the moderating effect of the relationship among POS and "interpersonal interaction" and " school adaptation." Table 4 shows the results.

The results presented in Table 4 indicate that Equation 1, which pertains to "Interpersonal interaction" in the new second-generation VHS students, significantly predicts "school adaptation" (β=0.66, p<0.001). In Equation 2, the interaction between "interpersonal interaction" and "perceived organizational support" positively predicts "self-identity" (β=1.61, p<0.001). As a result, it can be concluded that there is a moderating and mediating effect Involving "interpersonal interaction," "self-identity," "perceived organizational support," and "school adaptation.

CONCLUSION

Based on the "Cultural Identity" theory, this study explored

Table 4. Moderating effect in the hypothetical model tested with SPSS PROCESS model 7.

Variable	Model 1: School adaption				Model 2: Self-identity			
	β	SE	t	95%CI	β	SE	t	95%CI
Age	0.54	0.13	4.10	(0.27, 0.80)	-0.10	0.10	-1.04	(-0.29, 0.09)
Sex	0.62	0.61	1.01	-0.60, 1.83)	0.58	0.32	1.80	(-0.07, 1.22)
Interpersonal Interaction: X	0.66	0.07	9.38***	(0.52, 0.81)	2.19	0.16	14.05***	(1.88, 2.50)
Self-Identity: M	0.41	0.09	4.86***	(0.24, 0.58)				
Perceived Organization Support: U					1.61	0.08	19.05***	(1.44, 1.78)
X*U	.				0.63	0.05	11.79***	(0.74, 0.53)
R^2	0.20	0.05						
F	26.68***	139.04***						

Source: Author.

the correlation between "interpersonal interaction" and "school adaptation" of the new second-generation VHS students. Through the literature review, this study proposed a hypothetical research framework including "interpersonal interaction" and "school adaptation" as essential elements, "self-identity" as the mediating variable, and "perceived organizational support" as moderating variables. This author compiled a questionnaire based on the hypothetical model and conducted an empirical investigation on 60 new second-generation students of a VHS in Nantou County, Taiwan. Using the SPSS 20 PROCESS procedure (Hayes, 2022) to verify the proposed model, the conclusions are as follows:

1) The "interpersonal interaction" of the new second-generation VHS students can effectively predict the performance of "school adaptation." This study found that there is a positive correlation between "school adaptation" and "interpersonal relationships," and "interpersonal relationships" will directly affect and can effectively predict students' "school adaptation."

2) The "self-identity" of the new second-generation VHS students has a mediating effect in the influence model of "interpersonal interaction" on "school adaptation."

This study found that the "self-identity" of the new second-generation VHS students has a mediating effect on the impact model of "interpersonal interaction" on "school adaptation." The reason is that an excellent "self-identity" improves their "social support," thus constructing a positive "interpersonal relationship," thereby improving their "school adaptation" performance.

3) The "perceived organizational support" of the new second-generation VHS students plays a moderating role in the relationship between "interpersonal interaction" and "school adaptation."

This study found that "perceived organizational support," including multicultural activities, advocacy and care for the new residents and the new second generation

by the government, school organizations and non-governmental organizations, and cultural integration, has a positive effect on the "self-consciousness" of the new second-generation VHS students. In addition, this study also found that "perception group support" also has a moderating effect on the "interpersonal interaction" and "school adaptation" of the new second-generation VHS students.

This study found that "interpersonal interaction," "self-identity," "school adaptation," and "perceived organizational support" of the new second-generation VHS students constituted a mediating effect model, which confirmed the validity of the proposed model in this study. This finding has essential guiding value for multi-education development and counseling in vocational education.

Suggestions for future research

Due to the limitation of research time and funds, the main research variables included in this study to explore the new second generation of VHS students are "interpersonal interaction," "self-identity," "school adaptation," and "perceived organizational support." Moreover, this study used empirical data to verify and confirm the mediation model's validity. In the future, follow-up researchers can refer to this study. Interested researchers may expand the scope of research variables and the number of samples to get closer to the real-world situation.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

FUNDING

The budget for this work was supported by this author.

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Review of the mathematical thinking levels of gifted and non-gifted students

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This study aimed to determine the mathematical thinking levels of gifted and non-gifted students and to compare them according to some variables. In this study, screening model was used from quantitative research methods. The study group of the study consists of 194 gifted students and 168 non-gifted students studying in grades 5-8 in a province in the southern region of Turkey in the 2022 to 2023 academic year. According to the results of the research, it was found that the mathematical thinking levels of gifted students were higher than their non-gifted peers. In addition, the mathematical thinking levels of gifted students showed a significant difference compared to grade level. This does not apply to non-gifted students. It was found that the mathematical thinking levels of female students were higher than the mathematical thinking levels of male students in gifted and non-gifted student groups, but this difference was not statistically significant. In addition, it was seen that the success grade of the mathematics course made a significant difference on the mathematical thinking level of both the gifted and non-gifted student groups.

Key words: Gifted students, mathematical thinking, non-gifted students.

INTRODUCTION

Today, with the rapid pace of change, the education systems of the countries make it an important goal to educate students in a way that they dominate technology and contribute to their country by directing the change in the world. Education systems shaped in this direction will be successful when they can raise individuals who can offer different and qualified answers to original problems in daily life by using current opportunities in the most effective and efficient way. For this reason, curricula take into account the development of 21st century basic skills

and attach importance to learning processes that can provide this. Mathematical thinking is one of the basic skills that the nations want to gain in the qualified educational environments targeted by the nations and that the nations integrate into their curricula. The mathematics curriculum, which was revised by the Ministry of National Education in Turkey, started to be implemented in all grade levels of primary and secondary schools as of the 2018-2019 academic year. It is stated that instead of a structure that only conveys information

in the new curriculum, a simple structure that takes into account individual differences, focuses on gaining values and skills is aimed. In addition, it is stated that it is aimed to raise individuals with knowledge, skills and behaviors integrated with values and competencies (MEB, 2018). This study focused on examining the mathematical thinking levels of gifted and non-gifted student groups in terms of different variables. Thus, it was thought that it would be important to reveal the reflection of the achievements of mathematical thinking skills in the mathematics teaching curriculum to the students.

Mathematical thinking

Mathematics has its own language and way of thinking. Since mathematics is a systematic structure, mathematical thinking has an important place in this system. Mathematical thinking skills can enable people to know themselves and the universe as a common thinking tool. Individuals who have acquired mathematical thinking skills can be successful in solving problems related to themselves and their environment (Tall, 1991). The importance of mathematical thinking emerges at this point, as appropriate responses to problems will be achieved with a sound and functional thinking skill (Yenilmez, 2007). Mathematical thinking helps individuals to realize the place and importance of mathematics in the world, to be constructive, reflective and sensitive citizens and to make sound decisions (PISA, 2015).In fact, mathematics, beyond all this, is often considered as life itself. Learning mathematics requires learning basic concepts and skills, as well as thinking mathematically, solving problems, and understanding that mathematics is important in real life.

The development of the concept of mathematical thinking in education and the importance of highlighting this skill in the learning process began in the 1980s, and Egan (1975), Freudenthal (1981), Krutetskii (1976), Burton (1984) and Schoenfeld (1992) studies reveal how important mathematical thinking is in mathematics education. Although there is no common definition and set of components for the concept of mathematical thinking in the field literature, it can be seen that mathematical thinking is a high-level thinking process that requires the management of processes that will solve the problem situation other than finding only the answer to a problem (Polya, 1945). According to Henderson et al. (2003), mathematical thinking is the direct or indirect application of mathematical processes to solving problems. Burton (1984) stated that mathematical thinking is not thinking about the subject of mathematics, but a way of thinking that is a function of known mathematical dynamics, processes and certain processes. Liu (2003) defined mathematical thinking as "the combination of estimating, induction, generalization, sampling, deduction, description, verification, formal and non-formal reasoning, and similar processes." Yeşildere (2006) stated that mathematical thinking occurs if high-level thinking skills such as customization, generalization, prediction, hypothesis generation, checking the accuracy of a hypothesis are required in the solution of a problem. When defining mathematical thinking, some of its elements are mentioned. Mason et al. (1985) stated that mathematical thinking consists of the processes of customization, generalization, hypothetical, and verification-persuasion, while Tall (2002) states that it consists of abstraction, synthesis, generalization, modeling, and proof. Alkan and Güzel (2005) also stated that mathematical thinking occurs by using the individual's previous knowledge of mathematics and abstraction, prediction, generalization, hypothesis and testing, reasoning and synthesis, etc.

Although mathematical thinking is perceived as a process used to solve mathematical problems, it is a process that can be used in every problem to be encountered in daily life. It is important to learn and teach mathematical thinking (Demirtaş, 2018) and to have a good mathematical thinking. In fact, mathematical thinking is one of the elements that form the basis of problem-solving skills. Similarly, Tuncay (2015) emphasized the importance and impact of mathematical thinking on the problem-solving process.

Gifted students

Not every individual is the same in educational settings. There are individuals who think at different speeds and have different individual characteristics. One of these student groups is gifted students. Gifted students have cognitive skills that will enable them to be successful in the fields of science and art, and they constitute approximately 2% of the society (Ataman, 2004). For this reason, gifted individuals need to be well trained and guided through education prepared in accordance with their characteristics (Davis, 2006). There are different approaches to define giftedness in the field literature.

Renzulli (1978), called the three-ring model, expresses giftedness as the intersection of above-average ability, task delivery, and creativity. Gifted individuals will form the intellectual segment in the society if their potential is evaluated correctly by giving appropriate trainings to them (Bakar et al., 2018). With appropriate trainings, it is inevitable that gifted individuals will contribute positively to the development of both their immediate environment and society (Sontay et al., 2014). In Turkey, gifted people are diagnosed in 5 stages.

Stage 1: Announcement phase
Stage 2: Filling out observation forms by classroom teachers
Stage 3: Evaluation of forms
Stage 4: Group screening

Stage 5: Individual review

The basic stages in which the diagnosis of gifted are 4th and 5th stages, in which students who succeed in the group screening are evaluated individually. In this individual evaluation, the intelligence test preferred by the Ministry of National Education is applied. In 2015, WNV, or Wechsler intelligence test, was applied to 2nd, 3rd and 4th grade students. In 2016, while Kbit or Kaufman short intelligence test was applied to the first and second grades, the WNV test was applied to the third and fourth grades. In 2017, this time, ASIS, namely SAK Intelligence Scale, was applied to first and second year students in SAC auditions, while WNV test was applied to third year students. In SAC intelligence tests, a new regulation is made every year and it is preferred to change the tests. In this context, it is not possible to talk about a certain intelligence test every year, and individuals with an IQ score of 130 and above in the tests are defined as gifted individuals. In addition to the formal education activity in their schools, individuals who are diagnosed as gifted receive education according to the talent area (General Ability, Painting, Music) in SAC. In the diagnosis, there is no process for whether individuals are gifted in the field of mathematics (Aygün et al., 2020). In addition to the (formal) mathematics teaching curriculum in their schools, gifted students also experience different teaching processes in the Science and Art Center. Since mathematical thinking is a high-level thinking activity, it is expected that gifted individuals will emerge in problem-solving processes. In this case, it is important to determine whether the mathematical thinking skills of students diagnosed as gifted differ from their mathematical thinking levels compared to their peers.

Research questions

Examining the field literature, it is observed that there are limited number of studies that focus on gifted talent specific to the field of mathematics, and limited number of studies showing that the mathematical problem-solving processes of gifted students (Kim et al., 2004; Yıldız et al., 2012) and their mathematical creativity (Haavold, 2013; Taşkın Can, 2013) differ from those of non-gifted students. There are studies on revealing the mathematical thinking processes of the students (Aygün et al., 2020; Baltaci, 2017; Kamarulzaman et al., 2022). In addition, teacher awareness studies on mathematical thinking (Baki and Işık, 2018; Baş, 2013; Coskun et al., 2021; Fisher et al., 2018; Krupa et al., 2017; Lee and Francis, 2018; Nickerson et al., 2017; Superfine et al., 2018; Türker and Yetkin, 2021) and review studies (Akdoğan, 2021) was made. As a result, determining the level of mathematical thinking of gifted students is considered an important issue in terms of revealing the factors behind the success of these students as well as reflecting the

reasons for their failures on the contrary. In this study, unlike other studies, the mathematical thinking levels of gifted and non-gifted students have been discussed comparatively. In addition, the scores of both student groups from the Mathematical Thinking Scale (MTS) will be compared in terms of gender, grade level and mathematics achievement grade variables, and it is thought that the research findings will contribute to the field literature. In this context, this study aimed to determine the mathematical thinking levels of gifted and non-gifted students and to compare them according to some variables (gender, grade level and mathematical achievement). For this purpose, the following research questions were formed:

1. What are the levels of mathematical thinking of gifted and non-gifted students?
2. Do gifted students differ in mathematical thinking levels based on gender, grade level and mathematics achievement?
3. Do the levels of mathematical thinking of non-gifted students differ according to gender, grade level and mathematics achievement?

METHOD

Research pattern

In this study, which aims to compare the Mathematical Thinking (MT) levels of gifted (G) and non-gifted (NG) students from 5-8 grade secondary school students in terms of different variables, a screening model from quantitative research methods was used. Screening models are research approaches that aim to depict a past or current situation as it exists (Karasar, 2009).

Study group

The research was carried out with 194 G students attending SAC from 5-6-7-8 grade students of secondary school in a province located in the southern region of Turkey and 168 NG students studying at the 5-8th grade level of a randomly selected public school from the same province. The fact that students attend SAC means that they are diagnosed as G. The Gstudent group is limited to students who are nominated by their teachers with the observation forms sent to the schools by SAC and who continue to SAC by successfully completing the diagnostic processes. These students, who study at SAC in addition to their formal education, are students whose IQ score is determined to be 130 and above by a standardized test conducted by the Ministry of National Education. Descriptive statistics about the study group of the study are presented in Table 1.

While G students constitute 53.59% of the sample, NG students constitute 46.40%. NG students at all grade levels (43 fifth graders, 40 sixth graders, 50 seventh graders, 35 eighth graders) are evenly distributed. In the distribution of G students (50 fifth graders, 82 sixth graders, 36 seventh graders, 26 eighth graders), there is a decrease in the number of students with the increase in grade level. It can be seen that female students (105 girls, 63 boys) are higher than female students (105 girls, 63 boys) according to gender, while the ratio of male students (85 girls, 109 boys) is higher in the distribution of G students. It is seen that the majority of the students

Table 1. Descriptive statistics.

Variable	G		NG	
	N	%	N	%
Gender				
Female	85	43.8	105	62.5
Male	109	56.2	63	37.5
Grade Level				
5	50	25.8	43	26.5
6	82	42.3	40	23.8
7	36	18.6	50	29.8
8	26	13.4	35	20.8
Mathematics course grade				
Low level (3 and lower)	33	17.0	38	22.6
Moderate level (4)	42	21.6	40	23.8
Good level (5)	119	61.3	90	53.6
Total	194	100	168	100

have a mathematics report card grade at the intermediate level and above.

Data collection tool and analysis of data

In the study, the Mathematical Thinking Scale (MTS) developed by Er et al. (2023) was used to determine the MT levels of the participants. The sub-factors of the MTS include "Inductive and deductive thinking (7 items)", "Utilitarian thinking (3 items)", "Planned thinking (3 items)", and "Problem-solving based thinking (3 items)". The internal consistency coefficient of the 16-item MTS used in this study was found to be 0.87. The obtained reliability coefficient shows that the scores related to the scale are reliable and can be used for research purposes (Tavşancıl, 2002).

All data of the study were collected by the researcher. The scale took approximately 25 minutes to implement. The mathematics achievements of the students are determined by the grades of the students' mathematics courses in the previous semester, which are registered in the system in their schools. After checking the assumptions of normality of the MTS scores of the students according to the variables and the equality of the variances, it was decided which analyzes would be performed. Kolmogorov Smirnov statistics analytical test values (N and skewness-flatness values) were examined whether the scores obtained from the scale provided normality for each data group. The values of ±1, ±1.5, ±1.96, ±2, ±3, ±3.29 are proposed for the assumption of normality in the field literature. In this study, the ±2 approach (George and Mallery, 2019) was considered in the examination of skewness and flatness values.

Data Analysis of whether the MT levels of the G and NG students showed a statistically significant difference was examined by performing the t-test of unrelated samples. Whether the mean MTS scores of the G and NG students showed a significant difference according to the gender variable was examined by applying ANOVA test or not and whether there was a significant difference according to grade level and mathematics achievement grade variables was examined by applying a single-factor analysis of variance (Ford and Harris, 1992). Scheffetest, one of the complementary post-hoc analysis techniques, was applied to determine between which groups the significant difference found with single-factor ANOVA was found. In this process, p = 0.05 was

accepted for the significance value in the process of analyzing all statistical analyzes.

FINDINGS

Comparison of MTS scores of G and NG students

First, it was examined by applying the unrelated groups' t-test, the total score obtained from the MTS scale and the scores obtained from the sub-factors. The results are given in Table 2. Examining Table 2 is examined, there is no statistically significant difference in the mean MTS total scores of G and NG students (t(360) = 1.825, p>0.05). MTS averages of NG students ($\bar{X}$=61.52), are lower than those of G students ($\bar{X}$=64.10). There is a statistically significant difference in the mean of factor 1 score, which is the sub-factor of the MTS scale of G and NG students. Accordingly, it can be said that the MT levels of G students are higher than those of NG students, but this difference is not significant. In addition, considering that the maximum score that can be taken from the scale is 80, it can be said that the MT levels of the students in both groups are high.

Comparison of MTS scores of G and NG students by gender

The findings obtained as a result of the t-test are presented in Table 3. Examining Table 3, it was seen that the mean MTS total scores of the G and NG students did not show a statistically significant difference according to the gender variable (t(192) = .588, t(166) =.276, p>0.05). It was observed that average scores of female students in the G group from MTS ($\bar{X}$=64.81) were higher than

Table 2. Unrelated groups t-test results.

Factors	Groups	N	A.O	Ss	T	Sd	P
F1	G	194	29.38	7.10	2.199	360	0.029*
	NG	168	27.91	5.33			
F2	G	194	11.74	3.66	1.444	360	0.150
	NG	168	11.21	3.30			
F3	G	194	11.41	3.41	1.205	360	0.229
	NG	168	11.00	3.02			
F4	G	194	11.56	3.61	0.463	360	0.644
	NG	168	11.39	3.00			
Total	G	194	64.10	14.69	1.825	360	0.069
	NG	168	61.52	11.72			

Table 3. Students' mathematics thinking scale scores by gender.

Students	Gender	N	$\bar{X}$	Ss	T	Sd	P
Gifted	Female	85	64.81	15.12	0.588	192	0.557
	Male	109	63.55	14.40			
NG	Female	105	61.72	11.64	0.276	166	0.783
	Male	63	61.20	11.96			

Table 4. Change of students' mts scores by grade level.

Students	Grade	N	$\bar{X}$	Ss		Sum of squares	Sd	Squares Avg.	F	p
G	5	50	67.28	14.24	*Ga*	8112.341	3	2704.114	15.295	.000
	6	82	56.98	14.23	*Gi*	33592.386	190	176.802		
	7	36	68.47	13.81	Total	41704.727	193			
	8	26	74.42	4.74						
NG	5	43	63.44	12.05	*Ga*	311.895	3	103.965	0.753	0.522
	6	40	61.95	12.52	*Gi*	22653.956	164	138.134		
	7	50	60.88	11.54	Total	22965.851	167			
	8	35	59.62	10.71						

Intergroup: Ga; In-group: Gi

those of male students ($\bar{X}$=63.55), and similarly that average scores of female students in the NG group from MTS ($\bar{X}$=61.72), were higher than those of male students ($\bar{X}$=61.20). Accordingly, it can be said that the MT levels of female students in both groups are higher than those of male students.

Comparison of MTS scores of G and NG students according to grade levels

The findings obtained as a result of the ANOVA test are presented in Table 4. According to Table 4, it was found that the mean scores of G students from MTS showed a significant difference according to their grade level (F (3. 194) = 15.295, p<0.05). Total score averages of the G students participating in the study were as follows respectively from lowest to highest: sixth grade ($\bar{X}$=56.98), fifth grade ($\bar{X}$=67.28), seventh grade ($\bar{X}$=68.47) and eight grade ($\bar{X}$=74.42). The Scheffe test, one of the multiple comparison tests, was used to determine the direction of the significant difference. According to the analysis results the difference between fifth, seventh and eighth grade G students is in favor of sixth grade students. In

Table 5. Change of students' mts scores according to mathematics achievement.

Students	Mathematics achievement	N	$\bar{X}$	Ss		Sum of squares	Sd	Squares Avg.	F	p
	Low	30	49.60	18.50	Ga	12487.644	2	6243.822	40.818	0.000*
G	Moderate	35	56.14	15.46	Gi	29217.083	191	152.969		
	Good	129	69.64	9.33	Total	41704.727	193			
	Low	38	56.26	15.14	Ga	2150.619	2	1075.309	8.524	0.000*
NG	Moderate	40	59.37	9.93	Gi	20815.232	165	126.153		
	Good	90	64.71	9.75	Total	22965.851	167			

addition, it was found that the mean scores of the NG students from MTS did not differ significantly according to the grade level (F (3.168) =0.753, p>.05). Total score averages of the NG students participating in the study were as follows respectively from lowest to highest: eight grade ($\bar{X}$=59.62), seventh grade ($\bar{X}$=60.88) sixth grade ($\bar{X}$=61.95) and fifth grade ($\bar{X}$=63.44). Accordingly, it can be said that the level of MT of the G students increases as the grade level increases, while the MT levels of the NG students decrease slightly as the grade level increases.

Comparison of MTS scores of G and NG students according to mathematics achievement

The findings obtained as a result of the ANOVA test are presented in Table 5. According to Table 5, it was found that the mean scores of G students from MTS showed a significant difference according to their mathematical achievement (F (3.194) =40.818, p<.05). Total score averages of the G students participating in the study in MTS were as follows from lowest to highest: students with low mathematics achievement ($\bar{X}$=49.60), students with moderate mathematics achievement ($\bar{X}$=56.64) and students with good mathematics achievement ($\bar{X}$=69.64). The Scheffe test, one of the multiple comparison tests, was used to determine the direction of the significant difference. According to the analysis results the difference between G students with moderate mathematics achievement and good mathematics achievement is in favor of students with low mathematics achievement.

In addition, it was found that the mean scores of the NG students from MTS showed a significant difference according to their mathematical achievement (F (2.168) =8.524, p<.05). Total score averages of the NG students participating in the study from MTS were as follows from lowest to highest: students with low mathematics achievement ($\bar{X}$=56.26), students with moderate mathematics achievement ($\bar{X}$=59.37) and students with good mathematics achievement ($\bar{X}$=64.71). The Scheffe test, one of the multiple comparison tests, was used to determine the direction of the significant difference.

According to the analysis results the difference between NG students with moderate mathematics achievement and good mathematics achievement is in favor of students with low mathematics achievement. Accordingly, it can be said that the MT levels of both G and NG students increase as their mathematical achievement levels increase.

DISCUSSION

This study, which was conducted to determine whether the MT levels of G and NG students and the average scores they received from the MTS scale differed according to gender, grade level and mathematical achievements, was based on the data obtained from 362 students. In line with the first research question, the average scores of G and NG students from MTS were compared. It was observed that there was a statistically significant difference in the mean scores from Factor 1, which is the sub-factor of the MTS scale, in favor of the G students, and as a result of the comparison of the average scores taken from the whole scale, it was seen that the G students had a higher average than the NG students, but this difference was not significant. Accordingly, it can be said that the MT levels of G students are higher than those of NG students. In addition, considering that the maximum score that can be taken from the scale is 80, it was observed that that the MT levels of the students in both groups are high. Gagne (2004) expressed the concept of superior ability as the individual's intelligence age being above normal and performing at a high level in reasoning and abstract thinking skills. Gifted individuals have a high level of sense of duty and creative skills and above-average academic ability (Renzulli, 1978). Gifted individuals are by nature high-level performers in many areas compared to their peers. These research findings are similar to the findings of the field literature.

In line with the second and third research questions, the status of the MTS total score averages of the Gand NG students according to the variables (gender, grade level, mathematics course success) was examined. It

was observed that the mean MTS total score of both G students and NG students did not show a statistically significant difference according to gender variable. In addition, it was observed that the MT levels of female students in both groups were higher than male students. Akçakın and Kaya (2020) examined the variation of mathematical thinking styles according to gender in their study. Researchers stated that female students have more analytical thinking style than male students, and male students have more visual thinking style than female students. Gürtaş (2021) examined the mathematical thinking and problem solving skills of secondary school 7th grade students on rational numbers in his study, in which both qualitative and quantitative methods were used. As a result of the research, it was seen that the mathematical thinking and problem solving skills of the students were not at the desired level, and there were statistically significant differences when the participants were examined in terms of variables such as gender, parental education level, the schools they attended, and the reading time. In his study titled "A review on MT skills", Duran (2005) examined the power of some variables related to MT applied to 15-year-old students within the scope of PISA to predict the success of MT skills. As a result of the research, it was reported that male students were more successful than female students, and those who received pre-school education were more successful than those who did not receive pre-school education. In the study titled "Development of MT in Prospective Teachers" by Alkan and Güzel (2005), it was examined that the MT levels of prospective teachers did not constitute a significant difference in terms of gender. Although there is a significant difference in the two sub-factors, it can be said that parallel results have emerged with this research when the whole scale is considered. Him (2006) conducted research on the self-regulatory learning of gifted students in the field literature, and found that male and female students were similar in terms of average scores in terms of intrinsic motivation, test anxiety, cognitive strategy use, and self-regulation, and that the results did not differ significantly. Pajares and Graham (1999) also reached similar conclusions. Accordingly, it can be said that this research finding is similar to the field literature. It was found that the average scores of gifted students from MTS differed significantly according to grade level. However, this does not apply to NG students.

The difference between the average scores of gifted students from the fifth, seventh and eighth grade MTS is in favor of sixth grade students. It was observed that that the level of MT of the gifted students increases as the grade level increases, while the MT levels of the NG students decrease slightly as grade level increases. Baş (2019) investigated the relationship between secondary school students' attitudes towards mathematics, mathematical thinking, and problem solving. As a result

of the research, it was seen that the students' attitudes towards all three variables were above the medium level, and these attitudes did not differ according to gender, but differed according to grade level. In addition, it was seen that the average scores of both gifted students and NG students from MTS showed significant differences according to their mathematical success. Accordingly, it can be said that the MT levels of for both groups of students increase as their mathematical achievement levels increase. Tüzün and Cihangir (2020) determined the relationship between the MT stages of secondary school students and their mathematical self-efficacy. The researchers found that there was a positive moderate level relationship between the students' mathematics course final scores and their mathematical self-efficacy and MT stages, as well as between the MT stages and mathematics self-efficacy. In addition, in the field literature, Karakoca (2011) revealed a significant differentiation in the variable of mathematical achievement in MT situations in problem solving. In the study by Alkan and Güzel (2005), it was seen that there was a linear relationship between prospective mathematics teachers' scores from the analysis courses and their level of mathematical thinking. In addition, it was seen that there was a significant relationship between MT and mathematical success in Mubark (2005)'s study, there was a strong relationship between MT and mathematical achievements in Nepal (2016)'s study, and there was a positive significant relationship between MT and success in Kocaman (2017) study. Accordingly, it can be said that this research finding is similar to findings in the field literature.

Consequently, in this research, it has been observed that the MT levels of G students were significantly higher according to their grade level; however, this did not apply to NG students. In addition, it was found that the MT levels of female students were higher than the MT levels of male students in gifted and NG student groups, but this difference was not statistically significant. In addition, it was seen that the success grade of the mathematics course made a significant difference on the level of MT of both the gifted and NG student groups.

CONCLUSION AND RECOMMENDATION

It is important for individuals to have this skill because they use MT skills in analyzing the events and phenomena they encounter at every stage of life. In his study titled "The effects of MT skills on the academic achievements, problem-solving skills and attitudes of primary school students in technology and science courses", Taşdemir (2008) examined the effects of a unit in technology and science course on attitude, academic achievement, and problem-solving skills of groups that continue constructivist learning and normal education

with teaching that includes constructivist learning-based MT activities. According to the results of the study, it was determined that constructivist-based teaching, which includes MT activities, has a significant effect on the development of students' academic achievements, attitudes and problem-solving skills and on ensuring their continuation. Ayllón et al. (2016) examined the relationship between the development of MT and creativity through mathematical problem posing and solving, and creativity in mathematical problem solving and creation. According to the results of the study, a significant relationship was found. In order for the MT levels of both gifted students and NG students to be at the desired level, it is recommended to design teaching environments that develop this skill and to examine the effectiveness. In addition, in this research, MT levels were discussed and compared with the MT scale. In addition, the mathematical processes of G and NG students in the problem-solving process can be discussed together. In addition, it is recommended to conduct correlation studies in which different ways of thinking such as creative thinking and critical thinking are considered together. It is recommended to include more activities to develop mathematical thinking skills in the mathematics teaching curriculum. In addition, teachers can be given trainings to support the teaching process in gaining mathematical thinking skills. In addition, students', teachers' and pre-service teachers' mathematical thinking skills and processes can be examined.

Limitations

This study, which was conducted to determine whether the MT levels of gifted and NG students and the average scores they received from the MTS scale differed according to gender, grade level and mathematical achievements, was limited with the data obtained from 362 students. It was assumed that the students sincerely responded to the scale items.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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Focus group method for examaining the reading habits of high-level readers

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The state of reading to meet a person's needs develops over time, and this habit becomes a part of the person's life. In this study, a focus group interview was the preferred method of qualitative research. High-level readers who read more than 30 books a year were included in the study. Even though they read about 30 to 100 books a year, they still think they should improve in some respects. Their reading habits were acquired at an early age from a role model or by the encouragement of people around them. When a person feels the need to read, the habit starts to be acquired internally, but it is during later stages (high school and university period) that habits are solidified. According to this study, the most important factor in gaining reading habits are the surrounding people (parents, relatives, teachers, and friends). Moreover, it is determined that the fact that each of the participants has different experiences, opinions, and feelings about reading and that their reading orientations, desires, and expectations and the discovery of their world of meaning make them high-level readers.

Key words: reading habit, focus group interview, high-level reader.

INTRODUCTION

Reading comprehension is the process of making sense of a printed or visual message with the help of the mind. According to Özdemir (2007), reading is the perception of printed or written words through our sensory organs, which in turn interpret, understand, and comment on them. According to Demirel (1999), the reading process consists of the understanding of various movements and written symbols with visual and auditory organs. According to Anderson et al. (1985), they posited that reading encompasses the intricate process of synthesizing meaning from written textual materials, a multifaceted skill that necessitates

the harmonization of various interconnected sources of information.

According to Güneş (2009), the act of reading is characterized as an active endeavor in which the reader actively forges novel interpretations by amalgamating the textual information with pre-existing knowledge. During the act of reading, the reader engages in exploration to discern the significance of the text, subsequently proceeding to interpret and rearticulate its content. This cognitive operation of reading comprises a multifaceted process encompassing several cerebral

activities, including visual perception, cognitive processing, vocalization, comprehension, and cognitive structuring.

Reading is a physiological process when it comes to visualization and vocalization. Conversely, it is also a spiritual process when it relates to comprehension. The act of reading does not occur without an effective connection between the sensory organs and the mind, because the psychological movement is under the influence of the senses (Göğüş, 1978). While some researchers define reading, others try to explain it by comparing it to something.

In accordance with Thorndike's (1917) perspective, reading comprehension shares similarities with the process of solving a mathematical problem. It entails the careful selection of pertinent elements within the text and their subsequent integration in a manner that accurately reflects their relationships, assigning the appropriate degree of significance to each of these converging factors. Every word within a paragraph exerts an impact on the cognitive faculties, necessitating the reader to engage in a series of mental operations that encompass selection, inhibition, modulation, emphasis, correlation, and organization, all of which are guided by the individual's cognitive predisposition, purpose, or specific cognitive requirements. These assertions underscore the notion that merely vocalizing the words is insufficient for a comprehensive understanding of the material being read. Rather than vocalizing, to ensure understanding what is being read, many mental processes need to be engaged, which result in an understanding process. Contrastingly, Anderson et al. (1985) draw a parallel between reading and the orchestration of a symphony. This analogy conveys three significant insights. Firstly, akin to a symphonic performance, reading is a holistic endeavor. In other words, while the sub-skills of reading, such as letter recognition and word identification, can be dissected and examined individually, they do not constitute reading in isolation. It can be contended that genuine reading transpires when all these components are harmoniously amalgamated in a coherent and integrated manner. Secondly, proficiency in reading, much like the mastery of musical instruments, necessitates extensive and sustained practice. It indeed unfolds as a lifelong pursuit. Thirdly, akin to the interpretation of a musical note, there can exist multiple interpretations of a given text. The interpretation is contingent upon the reader's prior experiences, the reading's specific purpose, and the contextual backdrop within which the reading transpires (Anderson et al., 1985).

Güneş (2009) delineates this process as follows: the act of reading commences with the identification of lines, letters, or symbols within the text. Subsequently, attention is directed towards these elements, leading to the recognition of words and the comprehension of

sentences. Following this initial phase, the reader engages in a discernment process where information deemed pertinent and intriguing is singled out from the sentences and paragraphs. The chosen information undergoes a series of cognitive operations, including but not limited to ranking, categorization, association, inquiry, analysis/synthesis, and evaluation. The information, once processed in this manner, is then integrated with the reader's pre-existing knowledge and subjected to reinterpretation. Physical and mental characteristics, as well as internal and external motivations, as indicated by Güneş (2009), dominate people's realization of the reading process.

According to Ryan and Deci (2000), internally motivated behaviors that meet innate psychological needs for competence and autonomy, performed outside of interest, are prototypes of self-determination behaviors. Externally motivated behaviors-those that are carried out because they have some separable consequences-can vary in the degree of representing the right to self-determination. Internalization and integration are processes in which externally motivated behaviors are more self-determinant (Ryan and Deci, 2000).

Dökmen (1990) states that several needs enable people to be interested in books and reading. Dökmen outlines these needs and the sources of motivation for reading as the following: to have fun, to develop mentally, to strengthen attitudes, to acquire new knowledge, to organize old knowledge, and to use it as a psychological defense mechanism. In the study, it is seen that internal and external motivations dominate people's orientation to reading.

In multifarious studies, it has been emphasized that reading has certain goals. Reading serves a purposeful function, driven by the reader's specific intent, whether it pertains to leisure, information acquisition, research, or other objectives. Reading with a defined purpose serves as a motivating factor, a pivotal component of effective reading proficiency. The act of reading is interactive in nature, drawing upon the reader's reservoir of background knowledge. Moreover, reading inherently involves comprehension, as the reader typically anticipates a level of understanding from the material being read. Furthermore, reading exhibits adaptability, as the reader deploys a repertoire of strategies to optimize the reading process (Grabe, 1991). Smith (1967) delineates that individuals, whether classified as proficient or less proficient readers, engage in reading for a multitude of purposes, encompassing sources of enjoyment, intellectual challenges, utilitarian needs, socioeconomic requisites, vocational or avocational interests, personal and social necessities, problem-solving endeavors, spiritual or religious quests, and personal intellectual stimulation. It is possible to argue that internal and external motivations are also

influential here.

Francis et al. (2005) expound upon the findings of the Rand Reading Study Group's report (2002), elucidating the three overarching domains characterizing the outcomes of reading comprehension. Firstly, the domain of "knowledge" encompasses proficient comprehension of textual content, the seamless integration of newfound information with pre-existing knowledge structures, and the discerning appraisal of the presented information. Secondly, the domain of "application" pertains to the practical utility of acquired knowledge when it is employed to address real-world problems and tasks. Lastly, the domain of "engagement" signifies the reader's active involvement with the ideas, experiences, and stylistic elements embedded within the text (Francis et al., 2005: 369).

In his comprehensive meta-analysis of research pertaining to reading proficiency in both primary and secondary languages, Grabe (1991) delineates the essential domains of knowledge and competencies requisite for a proficient reader. These encompass:
1. Proficiency in automatic recognition skills.
2. Proficiency in vocabulary and structural knowledge.
3. Competence in understanding formal discourse structures.
4. Possession of extensive content and world background knowledge.
5. Competence in employing synthesis and evaluation skills and strategies.
6. Proficiency in metacognitive knowledge and skills, including monitoring one's own reading processes. In the literature, there are basically two types of reader-related research: poor readers and good readers.

Semerci (2002) conducted a survey to determine the reading habits of students in the physical education and sports department regarding the use of the library, reading via the Internet, leisure reading, reading periodicals, not reading books outside the courses, and the most popular genre of book. Although there is no distinction in the level of reading when selecting the students to participate, the conclusion that students do not read in the study indicates that poor readers made up the participants.

Yılmaz et al. (2009) surveyed 104 students at the faculties of medicine and fine arts about their reading habits. The survey contains information such as how they obtain the book to read, how often they read books, when they last bought books, and how often they use the library. Among numerous findings, it is found that students had a poor reading habit in general. While more than half of the study participants do not read books, very few (8%) read 2 or more books a month. Much of the research depicts poor readers.

Hughes-Hassell and Rodge (2007) conducted an investigation into the leisure reading behaviors of urban adolescents. They administered a survey to a cohort of 715 students, characterized by having some of the lowest reading proficiency scores within the school district. The comprehensive eighth-grade Reading Status Assessment outcomes revealed that 68% of these students achieved reading scores categorized as below basic, 23% attained basic scores, while 9% demonstrated proficient reading scores. Importantly, the study cohort primarily comprised individuals with limited reading proficiency.

Anderson et al. (1986) examined how much reading school children do. One hundred fifty-five fifth-graders filled in forms about how many minutes they spent each day doing various out-of-school activities. According to this study, most children usually read a little or not at all.

Arıcı (2008) conducted a survey of 110 students to primarily identify young people who do not like to read first, and therefore read little or not at all. Later, the study utilized the views on reading habits of 23 students who did not like to read and tried to reveal why they did not like this activity, the elements that affected their dislike, and their relationship with family members and friends.

Hall's (2010) research indicates that secondary school students in U.S. educational institutions face challenges as readers, as they exhibit difficulties and deficiencies in the requisite reading skills necessary for comprehending texts effectively, fulfilling reading-related assignments, and acquiring subject matter knowledge. The researcher posited that enhancing the comprehension capabilities of struggling readers could be achieved through the provision of targeted skills and strategic training by subject teachers, coupled with consistent opportunities for reading and text-based discussions.

Strommen and Mates (2004) found that young people in their study group, who were identified as not-readers from among sixth-graders, lacked reading skills. Their dislike of reading was examined via interviews. Stanovich (1986) also examined the concepts of reading disability and reading failure while focusing on the less skilled reader in his study. In addition, numerous studies (Beech and Harding, 1984; Jampolsky, 1951; Crisp, 1950; Stanovich, 1988; Plessas and Petty, 1962) focused on the poor reader.

In a certain number of the studies conducted with poor readers, opinions about whether they can be good readers were also reported or attempts were made to prove this through people who had accomplished it.

Magnusson and Naucler (1990) stated, as an answer to the question of whether a good reader would remain a good reader and a poor reader would remain a poor one, that good readers in the first grade have the chance to remain good readers; however, some of the children who were poor readers in the first

grade have the risk to remain poor readers, although some could improve. They also asserted that reading development is not related to what is done at school but to linguistic and metalinguistic levels of the children before schooling.

In the study conducted by Barone and Barone (2016), a teacher implemented a curriculum requiring fifth-grade students to undertake the task of reading 50 books over the course of a year. The primary expectation was for students to read and document the books they completed, without the imposition of additional obligations such as book reports, projects, examinations, or incentives following their reading endeavors. After a year of this program, these fifth-grade students exhibited a transformation into what is conventionally deemed proficient readers. This transformation occurred gradually, considering that a significant number of students had not previously completed an entire book before embarking on this initiative. Importantly, as they engaged in reading, they were also able to effectively apply the strategies and skills imparted by their instructors (Barone and Barone, 2016).

Baumann and Koch (1985) tell a similar success story. In their scholarly article titled "A Yearlong Journey with Kim: Transitioning from Non-reader to Proficient Reader," the authors offer a case study involving an eighth-grade female student. This study investigates her progress following a year of unconventional remedial reading instruction, characterized by an approach that treated her as a proficient reader rather than one with reading disabilities. The implementation of a meaning-oriented program tailored to her needs yielded a notable improvement in her reading skills, marking a distinct contrast to the prior seven years of remedial interventions, which had failed to yield any measurable progress in her reading proficiency.

Krashen and McQuillan (1998) reviewed research showing that children and adults can be good readers in later years, even if they are not in the early years of elementary school. Consequently, they observe that the proposition that once a weak reader always a bad reader is not necessarily correct. People can become good readers later by reading a lot about everything that interests them; the act of repeated reading makes them good readers. Thus "once a good reader, always a good reader."

In several studies, no reader distinction was observed. Dökmen (1990) applied a reading habits survey, a reading skill test, a reading interest scale, and a library usage survey in his research with high school and university students. The reading habits survey is about the genre, the number of books read per week and per month, and the reasons for not reading enough books. However, this study focused on the level of relationships with other scales and surveys, rather than examining these reasons.

According to findings reported by Deniz (2015), 117 among 382 students read 12 to 20 books a year, 100 students read 6 to 11 books, 58 students read 1 to 5 books, 86 students read 21 books and more a year, and 21 students read no books, indicating that 53% are good, 26% are moderate, and 15% are weak readers. It was also found that 5.5% of the students did not have a reading habit. This is also a study conducted without any distinction among readers.

Aydin Yılmaz (2006), in a study that examined cases of insufficient reading habits among teacher candidates, stated that 64.1% of teacher candidates read 6 to 20 books per year and 20.9% read more than 21 books per year. It is seen that the great majority of the participants in the study are intermediate readers.

An examination of research focusing on proficient readers reveals an emphasis on articulating the traits and attributes of adept readers rather than conducting empirical investigations. According to Anderson et al. (1985), reading is a cognitive process wherein textual information and the reader's pre-existing knowledge interact synergistically to generate meaning. Proficient readers adeptly amalgamate the information within the text with their existing cognitive schema. Skillful reading, as posited by Anderson et al. (1985) is characterized by constructive engagement, fluency, strategic acumen, intrinsic motivation, and a lifelong commitment to the pursuit of reading. Hall (2010) delineates a set of characteristics typifying proficient readers, which includes their capacity to monitor comprehension, address comprehension challenges, employ comprehension strategies, demonstrate proficient reading fluency, solicit assistance from others, engage in reflective contemplation concerning their strategic choices, persevere until they attain comprehensive understanding of texts, actively participate in classroom discussions, and engross themselves in the reading and subsequent discussions. Additionally, proficient readers exhibit an inherent interest in learning and are intrinsically motivated to engage with textual materials.

Smith (1954) in his study, which describes, through research, that good readers think critically, first emphasizes that there must be a large number of concepts that can be used to give meaning to language symbols, a prerequisite for a high level of understanding of linguistic meanings. Second, one has to have the tendency, habit, and ability to use higher thinking processes and adapt them to different content and purposes; and third, which should probably be the first, Smith thinks that one should be comfortable in language expression and have a comprehensive meaningful vocabulary (Smith, 1954).

Reading and reading habits represent distinct concepts. Initially, the process of aligning one's reading

endeavors with personal needs evolves gradually over time, eventually culminating in the incorporation of this habit into an individual's lifestyle. Experiences, environment, and time are very important in acquiring reading habits.

The majority of studies were conducted with poor readers. It is observed that the studies examined focus on the lack of reading habits and the causes of this condition. Good readers, on the other hand, are only expressed in research in terms of their characteristics. Research on good readers is almost nonexistent. Loos (1952) emphasizes that there is hope for many poor readers. Anderson and Pearson (1984) state that solutions will naturally present themselves when the problems of weak readers are correctly identified. Thus, cannot the way to find this solution be to examine how good readers got to this level? Do not educators always say that the good, not the bad, should be taken as an example. This suggests the following question: how did individuals with a reading habit acquire it? Accordingly, in the present study it was aimed to reveal the characteristics of people who have acquired the habit of reading with regard to their reading skills. For this purpose, answers to the following research questions were sought:

1. What are the reading time preferences of the participants and their reasons for these preferences?
2. What reading environments do the participants prefer?
3. What are the genres preferred by the participants and their reasons for these preferences?
4. What do the participants pay attention to when choosing the work they will read?
5. What are the books that have left a mark on the lives of the participants and the reasons for their influence?
6. What are the factors that affect the participants' reading skills?
7. How did the participants acquire their reading habits?
8. What are the methods that the participants use when reading?
9. How do the participants evaluate themselves as readers?
10. What are the participants' views on how the reading habit is formed?
11. What is affected by having a reading habit, according to the participants?

METHODS

Research design

This study is a phenomenological research, which is among the qualitative approaches, as it attempts, through the participants' experience, to describe all aspects of the reading habit of people who have acquired this habit. According to Cresswell (2006),

phenomenological work defines the common sense of several people's experiences related to a phenomenon or concept, and the data collection process usually involves interviews with individuals who have experienced the phenomenon (Cresswell, 2006). Therefore, a focus group interview was conducted to describe the phenomenon of the reading habit.

Focus group interviews are useful for researching people's knowledge and experience and can be used to investigate not only what people think, but how they think and why they think so without reaching a compromise. Focus group interviews are not problem-solving sessions. Unlike a series of one-to-one interviews, in the focus group, participants can express additional comments and thoughts beyond their original responses as they listen to the comments of others. However, participants do not need to agree on any consensus, nor do they need to conflict with each other (Kitzinger, 1995; Burgess, 1996; Patton, 2015; Cameron, 2005; Liamputtong, 2011; Gibbs, 2012).

Furthermore, the idea behind using the focus group method is that group discussions can help people discover and explain their views in a way that is not possible in one-to-one interviews. The focus groups method often touches on points that cannot be achieved by other methods and reveals the dimensions of the concept in a way that other data collection methods cannot. Group work also helps researchers use different forms of communication that people use in their daily interactions, such as jokes, anecdotes, and discussion (Kitzinger, 1995).

Participants

The purposive sampling method was used in this study. As Cresswell (2006) indicated, in phenomenological research, participants must be carefully selected to be individuals who have experienced the phenomenon at hand. Using the criteria of the American Library Association (ALA, 1978), the following question was asked to the 173 teacher candidates: How many books do you read in a year? Later, 32 people from among those who read more than 30 books a year were selected.

In the literature, it was seen that the number of participants in focus group interviews ranged from 4 to 8 (Kitzinger, 1995), from 6 to 10 (Patton, 2015; Cameron, 2005), from 4 to 12 (Hollander, 2004), and from 8 to 12 (Fern, 1982).

With the smallest group comprising 4 individuals and the largest group comprising 12, Cameron (2005) states that fewer than 4 participants in a group will limit discussion, while more than 10 participants will restrict individual contributions. Fallon and Brown (2002) suggest that the recommendations for group size vary from 4 to 12 members and from 4 to 8 members, with 8 often being considered ideal. According to Fern (1982) also, the best group size is 8 people.

Considering these factors, it was deemed preferable to construct groups comprising eight individuals for the purpose of our research. There were a total of four groups, each consisting of eight participants, all of whom maintained an annual reading habit exceeding 30 books.

The initial phase of the studyencompassed the examination of the first group comprising eight participants, while the subsequent implementation of the primary research application was extended to the remaining three groups, totaling 24 participants. The participants selected for the focus group interviews fell within the age range of 19 to 23 years. Among these, four participants were 19 years old, four were 20 years old, eleven were 21 years old, three were 22 years old, and two were 23 years old.

Furthermore, the gender distribution within the sample comprised seventeen female participants and seven male participants.

Research instruments

To reveal all aspects of reading habits, the literature was searched, and a question pool was created by the researcher by writing the questions in line with the subject of the study. Questions were aim to determine opinions and experiences rather than the level of knowledge of participants.

All of the questions for the research were open-ended. As Kitzinger (1995) points out, open-ended questions help to enhance the group dynamics while the participants describe their own experiences, allowing the study to be conducted from unexpected perspectives.

Merton and Kendall (1946) divided focus group discussions into the three following groups: unstructured questions (stimulus and response free), semi-structured questions, and structured questions (stimulus and response structured). Furthermore, in accordance with the findings of Merton and Kendall's study in 1946, a partially structured approach to questioning, rather than one that is entirely unstructured, has proven to be more productive and effective. This approach involves formulating questions that are moderately structured but not overly so. Therefore, semi-structured questions were used in the present study. Conversely, as Cameron (2005) suggests, when employing a pre-determined question or thematic hierarchy, it may be judicious to grant the group the autonomy to concentrate on pivotal discussion areas. In instances where the group exhibits reticence, researchers may find it necessary to introduce supplementary questions and prompts as a means to elicit information and stimulate discourse. These considerations should be factored into the preparatory phase of the research process.

In the current study, a set of ten semi-structured questions, pre-determined prior to the focus group interviews, were employed. Following the interview with the initial group of eight participants, a comprehensive discussion and assessment were conducted, encompassing the interview questions, the overall atmosphere of the session, and the duration of the study. Subsequently, for the primary research groups, a total of eleven semi-structured questions were employed.

Data collection

Before the focus group interview, we prepared name badges for the participants and ensured there were enough tables and chairs in the meeting room. Participants were provided with name badges, paper, and pencils at the start of the interview. With the group's approval, the interviews was recorded using both voice and video recorders. The focus group interviews were conducted at a round table in a quiet meeting room, following Cameron's (2005) recommendation that participants should sit facing each other. Additionally, food and beverages were placed on the tables. As Kitzinger (1995) stated, a comfortable environment, refreshing drinks, and sitting in a circle will help to create the right atmosphere. Therefore, before the study was conducted this environmental setting was achieved.

Hollander (2004) states that the interviews are often recorded by audio or video devices for transcription and analysis. In the present research, three recording devices (two voice recorders and one camera) were used during the focus group interview. Video recordings were taken to determine non-verbal behaviors and to avoid problems in determining the order of the speakers.

In the present research, 3 focus group interviews were conducted, each involving 8 participants. It was reported in the literature that focus group interviews could take around 1 to 2 h (Cameron, 2005; Patton, 2015; Kitzinger, 1995; Liamputtong, 2011; Gibbs, 2012). All interviews lasted between 110 and 120 minutes. All interviews were completed within 9 days.

As Fern (1982) states, moderators are very important for a focus group study. Moderators have many tasks in a focus group interview (Burgess, 1996; Gibbs, 2012; Liamputtong, 2011). In the present study, all the issues that the moderators have to take into consideration were investigated and were applied during the study.

The moderator informed the participants about the topic to be discussed before the interview started. In order to prevent any problems that could arise during the focus group interview, it was stated that everyone had a right to speak once in the first round of the study and if they had any other opinion to be discussed it could be expressed in the second round, giving priority to those that did not participate in the first round. In the meantime, if anything came to mind, it could be noted on the paper given out.

Each group member was given the right to speak. The moderators stated that there is not a single right answer and that their thoughts are important and that the answers may vary. They were warned about interrupting other participants or talking out of turn. If requested there could be short breaks during the study.

First of all, individuals were asked to introduce themselves and the questions were asked starting from the easy questions progressing towards the most thought-provoking ones. Even if the moderator's opinion was asked, he or she did not respond. The moderator made eye contact with the speaker and listened to the answer. After asking the questions, the participants were good listeners, and they did not interrupt while others were explaining their opinions. The participants were asked not to respond to the questions immediately and were given time to think when necessary.

The moderator ensured that all questions were addressed by participants and probed for the opinions that were not clearly expressed. The moderator completed the focus group interview by thanking the participants. Moreover, the moderator took extreme caution regarding the nondirectionality, specificity, range, depth, and personal context criteria that Merton and Kendall (1946) stated. During the entire process, the moderator did not express any judgment about the participants' answers, respected the participants, was open-minded, made good observations, took notes, and was patient.

Cameron (2005) and Gibbs (2012) state that an observer should help the moderator. An observer in the research helped the researcher by sitting at equal distance to all the participants, helping the moderator by organizing and setting up the recording devices, writing down the order of the participants, and taking note of important points that the moderators selected based on question numbers.

Data analysis

According to Patton (2015), the objective of the focus group interview is to obtain high-quality data from people that can evaluate their own opinions within the context of the views of others. According to Fern (1982), the output of the focus group is better than that of individual interviews.

A total of 6 hours of interviews were recorded. It took about 30 hours to transcribe the data. The interviews were written in Times New Roman and font size 12. A total of 110 pages of data were obtained in total: 38 pages from the first group, 37 pages from the second group, and 35 pages from the third group. All transcripts were read and subjected to content analysis. The software NVivo 11 Pro was used for data analysis.

Surveys represent a suitable means to gather quantitative data aimed at ascertaining the prevalence of specific pre-

Table 1. Participants' reading time preferences and reasons.

Reading time (f)	Reason (f)
Daytime (5)	Reading books for knowledge (1)
	Complete emptiness of the mind (1)
Evenings (3)	Having daily chores in the morning (1)
	Being able to listen to music (1)
	Being able to conduct research related to the book when necessary (1)
Before going to sleep (12)	Quietude of the environment (2)
	Being able to edit what is read in one's mind when sleeping (1)
	Having finished all chores (1)
	Feeling comfortable (1)
	Having an open mind (1)
	Emptying the mind (1)
Times when emotions are most intense (2)	Enjoying the books at those times the most (1)
Not having a special period (2)	Being able to read any time when there is an opportunity (1)

established viewpoints on a given subject. Conversely, focus groups serve as a more effective approach for delving into the intricate processes underlying the formation of these viewpoints. Consequently, in instances where surveys consistently reveal disparities between knowledge and behavior, it is only through qualitative methods like focus groups that these gaps can be bridged and the underlying reasons elucidated, as proposed by Kitzinger (1995:302). For this reason, in contrast to the other qualitative methods, the views of the participants are not digitized in focus group interviews. In the present study, reading habits were described based on the participants' explanations rather than numerical expressions. Codes, themes, and frequency values as the only numerical data were included in the presentation of the data.

The primary benefit inherent to focus groups lies in the prospect of observing interactions centered around specific sets of attitudes and experiences. Consequently, the data emanating from such interactions possess substantial value and warrant meticulous scrutiny, as advocated by Morgan and Spanish (1984). In this regard, the video recordings used in the focus group interviews were also taken into consideration in the analysis of the data.

As Patton (2015) points out, in any study, a series of different focus interviews are conducted to achieve different perspectives and to increase the reliability of the resulting pattern. For this reason, three focus group interviews were conducted to determine the different perspectives of the participants and to ensure the reliability of the research designed.

According to Patton (2015), phenomenological analysis aims at understanding and clarifying the meaning, structure, and essence of the experience of a person or a group of persons regarding a phenomenon. Accordingly, the phenomenological data analysis steps mentioned by Cresswell (2006) and Moustakas (1994) were used in the analysis of the data. Based on data from the research questions, interview transcripts were reviewed by two field experts, and important phrases, sentences, and quotes were highlighted. Later, these expressions were turned into codes and meaning sets were developed under themes. Both experts study comprehension skills. One of the experts is an associate professor in the field of language training and the other has a PhD in this field.

Coding similarities and differences were calculated by comparing the encodings performed by the two experts. According to the recurrence percentile formula (Reliability =

Number of agreements / Number of agreements + disagreements) (Miles and Huberman, 1994) the reliability of the interview analysis was 0.91. After that, the differences were discussed and minimized. Furthermore, based on Krueger's (2002) recommendations, a one-month break was given after the first data analysis and to maintain consistency the data were re-evaluated one more time.

RESULTS

Here in the results section the questions that were asked in the focus group interviews and the findings related to each question are given.

How many hours per day do you read books? Do you have a particular period you prefer?

The reading time of the participants varied between half an hour and 2.5 h a day. Five of the participants stated that they read books for 30 min to 1 h, 8 for 1 to 1.5 h, 3 for 1.5 to 2 h, and 8 for 2 to 2.5 h. The emerging themes regarding the reading periods are daytime, evening, before going to sleep, when emotions are at their most intense, and no special time. The period that most of the participants preferred to read was at night before going to sleep. In this case, it can be argued that it is effective to reduce daily routines and devote time to oneself and quietude of the environment (Table 1).

The sentences for the theme "when emotions are most intense" are as follows: *"I usually read an average of 2 to 2.5 hours. There is not a fixed period for reading, because I usually prefer to read when my feelings are most intense. I enjoy books more at those times."* (1). The expressions of the participants who prefer to read before bed are as follows: *"I usually read an average of 1 hour per day. I read before I go to bed so that I can create images in my mind."* (3), *"I'm a night owl. I can't do*

Table 2. Themes and codes for participants' reading environment preferences.

Theme	Code (f)
Audio	Quiet environment (12)
	Places neither too quiet nor too noisy (2)
Light	Dim environment (4)
	Candlelight (1)
	Luminous (2)
Area	Where one is alone (6)
	Library (4)
	Home (2)
	Places where people are few (2)
	Own room (5)
	Small, narrow, and confined spaces (1)
	Places with a table (2)
	Tidy environments (1)
	Intercity buses (1)
	No area discrimination (2)
	Bed (2)

much in the morning. I start at eight p.m. and continue reading until seven o'clock in the morning. I have the following criteria. One has to read at least 250 pages a day. No matter what you read, it's of benefit to you." (19). There are those who prefer to read during the day as well as at night. *"Unlike others, for me, early daytime reading is preferable, especially around seven o'clock in the morning, because my head is empty as I'm waking up. Nighttime reading before sleeping does not satisfy me that much."* (20).

Is there any place you prefer for reading? If so, where is it?

Most of the participants stated that they have a preferred place for reading. Accordingly, three themes emerged: audio, light, and area (Table 2).

It seems that audio and area themes stand out in the participants' preferences regarding the reading environment. Among all encodings, the area preference that comes first is silent environments. After that come the place where one is alone, the person's own room, and the library. When the codes are considered, it appears that people prefer environments where they can focus on the book.

Most participants prefer quiet environments to read books: *"I believe that it is more efficient when I read in places where I find peace. For instance, when I read a book in a crowded environment, I can't understand the depth or the feeling of the main idea presented in the book. But when we read the book in a quiet environment that we like, we can dive into the depth of the book. Since it is a very important point to live with the book, I think*

where we read the books is very important. My preferred place can be anywhere where I am alone." (1). *"It is very important for me to have a quiet environment just as my friends mentioned because I'm distracted when I read a book. I can't give my attention to the book, and it is difficult for me to get motivated. For this reason, it is very important for me to have a quiet place to read."* (3). In addition to those who seek silence, there are also people who can read books in any environment. *"Most of my close friends see me reading everywhere whenever I have free time because I can focus no matter where I am. I can read a book even when I'm walking down the road. I read books in the toilet. I read books while cooking. There is nothing specific regarding where and when I read and when nighttime comes nobody can keep me from reading."* (19).

Do you have a preferred genre? If so, why?

The genres that the participants prefer to read are novels, short stories, essays, biographies, personal development, poetry, magazines, and newspapers. The most preferred genres are novels and essays. It was seen that some of the participants preferred to read essays while others preferred novels. The participants tried to convince each other about the importance of the genre that they think comprises essential reading (Table 3).

The participants appear to prefer novels for their feelings, while they prefer essays for their thoughts. About a third of the participants read periodicals (magazines and newspapers). Here is a sample opinion from those who prefer to read novels: *"My favorite type of material to read is novels, because I love the action. The*

Table 3. Genres preferred by the participants and their reasons.

Literary genre (n)	Reason (f)
Novel (16)	Compatibility with life (1)
	Liking event writing (1)
	Giving aesthetic pleasure (1)
	Being free of life's troubles while reading (2)
	Integrity (1)
	Feeling like you have traveled to different realms (1)
	Being long-winded (1)
	Being almost engulfing (2)
	Enriching the imagination (1)
	Finding the opportunity to think (1)
	Being a true story (1)
	Being comforting (1)
	Being fluent (1)
Short story (4)	Ending quickly because it is short (1)
	Being enjoyable (1)
	Having what is given originally (2)
	Liking event writing (1)
Essay (9)	Finding oneself in the thoughts of the author (1)
	Developing one's own thoughts (1)
	Feeling like you have met the author (1)
	Interview with the author (1)
	Learning the author's thoughts (1)
	Getting more information (2)
	Finding life there (1)
	Finding novels artificial (1)
	Making one think (1)
	Thinking that it will be of use (1)
Biography (2)	Knowing various people (1)
	Wondering about their lives (1)
Self-development (2)	Self-improvement (2)
Poetry (5)	Reading occasionally (2)
	Enjoyable (1)
	Satisfaction in terms of emotion (1)
Magazine (8)	Liking short texts and poems (1)
	Having followed authors (2)
	Exploring different places to visit (1)
	Giving pleasure from a literary point of view (2)
	Finding sentences that can be underlined (1)
	Having articles that make you think (1)
	Being long-winded, rooted (1)
	Be open to innovation (1)
Newspaper (6)	Liking columns (2)
	Liking the journalists/authors (1)
	Providing self-development (1)
	Following current events (1)

book has to have a main event and the story has to be developed around it. I love biographies or autobiographies if they are thought-provoking and *informative. They attract my attention. I distract myself from the boredom of this life while reading novels."* (20). Those who liked to read essays expressed their reasons

by comparing them to reading novels. The participants were mostly divided into two groups: novel lovers and essay lovers. *"I am not a novel person; I like essays. Novels don't have much effect on me, but I believe novels must be read as well. For every two essays, a novel must be read. Let's think that we are building a house. If the thoughts are the columns and the main skeleton of the house, then the novels are the doors, the paint, and the windows. But I am more interested in the philosophy. The reason for this is that I think I get more information from them and thus I am more interested in them."* (1). For some students, the genre did not matter. *"I do not have a single genre that I especially like to read. The following four genres are my favorite: novels, poetry, essays, and short stories. I read these four types alternately. If I read a novel one week, I read poems the other week, an essay and a short story in the coming weeks. I like to read thick novels, especially world classics. I do not read foreign poetry very much because it does not appeal to me. Moreover, it is very difficult to translate poetry, and I do not think that every translator can translate them properly. I love poetry, especially from Turkish literature. If you read an essay by a writer you have read before, it makes you feel as if you have met the author and therefore I love to read essays. I also like short stories as the author can present the message within 20 pages."* (12). A teacher candidate explains why he does not read newspapers and magazines thus: *"I'm not reading newspapers or magazines. Newspapers are political or present news that makes us unhappy. They often discuss news that makes us lose hope about life, so I don't read them that much."* (15).

What do you consider when choosing a book, magazine or newspaper, etc.?

Based on the responses of the participants, the themes that arise are the author, content, structure, reader, and comments. The participants pay the most attention to the author in choosing the work they will read. Every situation involving the author concerns the majority of the participants. Another prominent feature is the recommendation of the book by others. The participants listen to the advice of people whose opinions they trust (Table 4).

The views of the participant who stated that selectivity begins over time are as follows: *"Perhaps just one phrase or a combination of two or three phrases may attract my attention. Maybe a couple of phrases may make me think for hours. That's why I prefer to read all kinds of books in which I find something from my life. Each book somehow talks to the reader. This can be a lot or a little. It does not matter how much it communicates with you as long as you find something relatable within the book. But I believe that what you read doesn't matter much. Just being willing to read is enough, because although you may not find it at first, after a while, you will figure out what you enjoy. Then selectivity begins."* (1). Quite a number of the teacher candidates expressed that they pay attention to the comments. One of those views is the following: *"When selecting books, I follow the comments on them and the number sold is very important for me. I read the reviews a lot. Other than that, the writer of the book is very important. While I read a novel, I come across the next book I will read. These things are effective in my choice."* (12). There are also those who spend quite a lot of time choosing books. *"If I'm going to buy books or magazines, I spend at least one and a half or two hours. I read at least five or six pages of the books before buying them. So I'm not buying them directly without looking, or I don't decide to buy depending on my previous good experiences with the authors. Every book by an author may not be that good. I need to look at the content of each."* (20).

Is there a book that has left a mark in your life? If so, why did it affect you?

Twenty-four participants named 45 works in total. The themes created based on the reasons why books affect readers are subject, style, message, identification, and influence. The aspects of being influenced by books for candidate teachers are mostly in subject and influence themes. These are followed by the themes of style, identification, and message, in that order. When the intensity of the codes is considered, it appears that the participants are most influenced by the style of the work and the hero (Table 5).

The view of the participant who states that he was quite impressed by the subject of the book that had left a mark in his life is as follows: "The book by Harper Lee "To Kill a Mockingbird." In the book, racial discrimination and inequality and class inequality were mentioned from the perspective of a child in the south of the United States of America. I read it when the book was not popular, and this book impressed me so much. I'm very interested in this kind of book that mentions human equality, prejudice, and inequalities." (22). Six participants identified with the hero of the book. In addition, there are those who identify with the author: "Oguz Atay's "the Disconnected." This book is now synonymous with me. Oğuz Atay is a very different man. The book is heavy. Yes, you need to read very carefully to understand the book; you need to read about Oğuz Atay's life. To understand Oğuz Atay, you need to be Oğuz Atay. Why do I love it? I sometimes feel like Oguz Atay. He's also in solitude. He is in the crowd but the man cannot explain his problem, he cannot suppress it, so it is a book that tries to establish a pattern in such chaos." (24).

What are the factors that affect your reading skills?

When the elements affecting the reading skills of the

Table 4. Themes and codes related to the elements considered in the selection of the work to be read.

Theme (f)	Code (f)
Writer	Being a popular writer (1)
	Being a non-popular writer (3)
	People who have made their name in literature (1)
	Names with literary value (1)
	Liking the writer (1)
	Writer's political views (1)
	Writer's artistic views (1)
	Writer's knowledge of literature (1)
	Writer's knowledge of writing (1)
	Having writers with different views (3)
	Being the work of a master writer (1)
	Belonging to writers describing today (1)
Content	Sentences making one think (1)
	Articles about history (3)
	Containing things that will be of use in the future (1)
	Including current affairs (1)
	Being an interesting topic (2)
	Searching for expressions to underline (1)
	Finding interesting sentences when shuffling pages (2)
	Reading the first five to six pages (1)
	The first page being interesting (1)
Structure	Book cover design (4)
	Number of editions (2)
	Publisher (4)
	Genre (2)
	Short article on the back of book (2)
	Not being too voluminous (max. 400 pages) (1)
Reader	Finding one's own (1)
	Adding something to one's own (3)
	Selection by current mood (1)
Comments	Comments about the book (1)
	Being recommended (7)
	Reviews from book sites (1)
	Finding another book to read in the book one is reading (1)
	Comments on sites followed (1)

participants were divided into themes, personal features, structural features, content features, and external features emerged. The content features come to the fore the most, following personal features. Elements that come to the fore in the codes are the quietude of the environment, a person recommended the book, sharing one's loneliness with the book, impressiveness of the book, the scarcity of unknown words, and the criticism of others about the book (Table 6). One participant gave his opinion on how much the choice of correct books influences reading skills as follows: "The book that I'm reading at the moment is what affects my reading skills most. If I like that book, if it is a good book, and if I could finish that book in two days, it does not matter if it is a novel or a short story, it will encourage me to read other books by the writer or read *other books. That's why I think the book in hand can improve our reading skills."* (9). Complaining about the noise, unknown words, and the predictability of the end of the book, the teacher candidate's sentences are as follows: *"noise also bothers me. I also feel uncomfortable when there are unknown words and the only books that I stop reading in the middle are those that have many unknown words in them. To be able to guess the end of the book also affects me"* (5).

Table 5. The work that left a mark in the lives of the participants, reason to be affected and themes.

Writer / work (n)	Reason (f)	Theme
Elif Shafak / The Forty Rules of Love (1)	Taking Mewlana as subject (1)	
Erdem Bayazit / Poems (2)	Telling about people (1)	
Halikarnas Balıkçısı / Aganta Burina Burinata (1)	Telling about the sea (1)	
Harper Lee / To Kill a Mockingbird (1)	Telling about inequality (1)	
Hüseyin Nihal Atsız / Ruh Adam (2)	Merging of reality with dreams (2)	
İskender Pala / Katre-i Matem (1)	Telling about historical events (1)	Subject
İskender Pala / Od (2)	Telling about Yunus Emre (2)	
Khaled Hosseini / A Thousand Splendid Suns (2)	Telling about women (1)	
Ömer Seyfettin / Blood Money (1)	Telling about serving someone slavishly (1)	
Stefan Zweig / Chess (1)	Having an interesting subject (1)	
Yashar Kemal / Memed, My Hawk (2)	Opposition to imposition (1)	
Zülfü Livaneli / Serenad (1)	Telling about love (1)	
Chingiz Aitmatov / Jamila (1)	Having a beautiful narration (1)	
Dostoyevski / Crime and Punishment (3)	Being fluent (1)	
Hayati İnanç / Can Veren Pervaneler (1)	Having a beautiful style (1)	
İhsan Oktay Anar / Puslu Kıtalar Atlası (1)	Having a different style (1)	
Mehmet Kaplan / Kültür ve Dil (1)	Having a beautiful style (1)	
Mehmet Kaplan / Nesillerin Ruhu (1)	Having a beautiful style (1)	Style
Mustafa Kutlu / Ya Tahammül Ya Sefer (1)	Having a mystical mood (1)	
Necip Fazıl Kısakürek / Çile (1)	Having a beautiful style (1)	
Turgenyev / Fathers and Sons (1)	Having a suspenseful narration (1)	
Zülfü Livaneli / Huzursuzluk (1)	Giving a good account of events (1)	
Ahmet Şerif İzgören / Şu Hortumlu Dünyada Fil Yalnız Bir Hayvandır (1)	Providing a positive view of life (1)	
Erdal Demirkıran / Parayı Bulduğum An Alayını (1)	Teaching that one should not be biased (1)	Giving a lecture
Nüvide Gültunca Tulgar / Kendi Kutup Yıldızını Bul (1)	Giving a lecture (1)	
Reşat Nuri Güntekin / Acımak (1)	Learning that someone is different from the way they appear (1)	
Cahit Uçuk / Gümüş Kanat (1)	Identification with the hero (1)	
Chingiz Aitmatov / The First Teacher (1)	Identification with a heroic teacher (1)	
Chingiz Aitmatov / The White Ship (1)	The hero chasing his dreams (1)	
İskender Pala / Şah ve Sultan (3)	Feeling what the hero experiences (1)	
Oğuz Atay / The Disconnected (2)	Self-analogy to the author (1)	Identification
Yaşar Kemal / Yılanı Öldürseler (1)	Fascination with the woman who is the heroine (1)	
Yusuf Atılgan / The Loiterer (1)	Almost being the hero himself (1)	
Ahmet Ümit / Şeytan Ayrıntıda Gizlidir (1)	Taking a person away (1)	
Burçak Çerezcioğlu / Mavi Saçlı Kız (1)	Crying for days (1)	
Emily Bronte / Wuthering Heights (1)	Takes one to different times (1)	
Guy de Moupassant / Claire de Lune (1)	Impressiveness of the things narrated (1)	
Khaled Hosseini / The Kite Runner (1)	Being unable to escape effects (1)	
Reşat Nuri Güntekin / The Wren (1)	Being the first novel read (1)	
Sabahattin Ali / Kuyucaklı Yusuf (1)	Unexpected ending (1)	Impressiveness
Stefan Zweig / Angst (1)	Unexpected end (1)	
Stefan Zweig / Letter from an unknown woman (1)	Impressiveness of the things narrated (1)	
Tarık Buğra / Osmancık (1)	Loving historical books due to this book for the first time (1)	
Yunus Emre / Divan of Yunus Emre (1)	Impressiveness of each verse (1)	
Yusuf Atılgan / Motherland Hotel (1)	Falling into a void when the book is finished (1)	

Table 6. Themes and codes related to elements affecting participants' reading ability.

Theme	Code (f)
Personal features	Making you feel something (3)
	Finding yourself in the book (3)
	Sharing loneliness (5)
	Having no harm (1)
	Being sad (3)
	Current emotions (1)
	Choosing the right book (2)
	Buying the book (3)
	Desire to benefit from the experiences of others (2)
	Desire for self-improvement (2)
	Living in the event (1)
	Desire to discuss the book with someone else (2)
Structural features	Being on publishing paper (1)
	Being on white paper (1)
	Having an interesting cover (2)
	Font type and size (2)
Content features	Being impressive (5)
	Artistic features (1)
	Language and style (1)
	Having simple language (1)
	Having fluent words (2)
	Raising awareness (1)
	Having satisfying content (2)
	Having few unknown words (4)
	Inability to predict the end of the book (1)
	Being a good translation (2)
	Having short descriptions (1)
External features	A person recommended the book (6)
	Book reviews (1)
	Criticism of others about the book (4)
	Respect when reading a book (1)
	Quiet environment (9)

How did you acquire your reading habits?

Codings related to how the teacher candidates acquired the habit of reading are grouped under four themes: the age at which the habit of reading begins, the people who influence it, intrinsic motivation, and extrinsic motivation. The ages at which the reading habit begins vary widely from 8 to 18. While some indicate that they acquired this skill at an early age, others acquired it quite late. It is not possible to suggest a particular age range. The numbers are very close. Teachers are the people who are most influential in forming a reading habit. Parents follow teachers. Some of the participants got the habit of reading through intrinsic motivation, while others had extrinsic motivation (Table 7).

Nine of the participants stated that the formation of their reading habits had been influenced by their teachers. A

few examples are as follows: *"We had a teacher in junior high. Everybody would take a break between classes, but this teacher used to stay in the class and read books. I used to pay attention to him and asked myself why he is doing this, and then I started to talk to him about these books. After conversing with him a couple of times, I started to read as well."* (2). *"When I passed from fourth to fifth grade, our teacher organized a reading contest, and I read about two hundred books. My reading habit comes from this."* (23). It is also important that family members encouraged reading as well as teachers. *"We were three brothers of similar ages. Our dad motivated us by giving us gifts after each book we finished reading. As soon as we arrived home after school, we used to go straight to our rooms and read, without watching TV. I also had a math teacher in high school who used to read a lot. I used to check what she was reading and once she*

Table 7. Themes and codes for participants to acquire the habit of reading.

Theme	Code (f)
Age at which reading habit begins	8-9 years (3) 9-10 years (2) 10-11 age (3) 12-13 years (3) 13-14 years (4) 15-16 age (2) 16-17 years (4) 17-18 years (3)
Influencers	Teacher (9) Mother (4) Father (4) Aunt (1) Uncle (2) Sister (1) Cousin (2) Friend (1)
Intrinsic motivation	Desire to guide one's future (1) Spending time reading books, finding nothing to do at the dormitory (1) Starting reading as a result of loneliness and psychological conditions (1) Becoming aware of the difficulty of working life and deciding to improve oneself (1) Thinking one should read a book after deciding to become a teacher (1) Feeling different as one reads (1) Finding one's feelings, thoughts in books (1)
Extrinsic motivation	Having a beloved teacher glued to books (1) Receiving a book as a gift from a teacher (2) Teacher's excerpts from books in class (1) Teachers' correct book advice (1) Seeing the teacher reading a book between classes (1) Desire to win the speed reading contest in elementary school (1) Reading hours with family as a child (1) Reading books with mother (2) Receiving a gift from father after finishing a book (1) Buying a book per week with the father (1) Wondering about the books read by one's father (1) Reading books with an aunt (1) Constant reading of an uncle (2) Having a book finishing contest with a sister (1) Seeing cousins read books all the time (2) Recommendation by a friend (1)

was done with reading the book, I used to go and get that book. So with the help of my father and my math teacher I acquired my reading habit." (9).

In addition to extrinsic motivations, there are also individuals who have acquired the habit of reading without any extrinsic motivation. *"I would also like to say that I was positively affected by others when acquiring my reading habit, but they affected me negatively. I realized by myself that I should read books. After high school, I started to work part-time. I worked for two years after*

high school. Reading books was a great idea. It was not easy to work, and I realized that I should improve myself to get better jobs and thus I can say that I realized that I should read by myself." (3). While some of them take up reading with the idea of having a better life, others felt the need to find a friend in their loneliness. *"I acquired my reading habit when I started high school. I was at a boarding school, and in order not to get bored in the dormitory, I started reading. I also acquired this habit of reading with the right guidance from my teachers and*

Table 8. Themes and codes for the methods that participants use when reading.

Theme	Code (f)
Underlining	Underlining important parts (5)
	Underlining with different colored pencils (1)
	Underlining using a pen of the same color as the color on the cover of the book (2)
	Underlining using a ruler (1)
Marking	Drawing an arrow, smiley face, flower, etc. (1)
	Placing a smiley emoji if the paragraph has made one laugh, or a sad emoji if the paragraph has saddened the reader (1)
	Putting exclamation marks in important parts (1)
	Placing quotation marks at the beginning and at the end of important parts (1)
	Placing stars in corners of important parts (1)
	Placing small pieces of paper between important pages (1)
	Folding the page (1)
	Giving stars from 1 to 5 depending on how much one likes the book (1)
	Writing the date (1)
	Using a bookmark (1)
Note taking	Taking note of important parts in a notebook (8)
	Making notes in the spaces at the top and bottom of the pages (6)
	Taking notes on small sheets of paper (1)
	Writing thoughts about the book at the end of the book (1)
Reading style	Reading slowly to understand (8)
	Reading think pieces slowly (4)
	Reading think pieces aloud (1)
	Reading novels fast (4)
	Skimming from the beginning to the end of the page (1)
	Reading fast if the book is fluent (1)
	Associating with life to make it memorable (1)
Motivation	Having a tidy environment (2)
	Drinking coffee to stay awake (1)
	Using a headset (1)

also because I came across great books. First, you start to read the authors you know, and then you find other authors." (18).

Do you have specific methods for reading? What are they?

The methods that participants used when reading were collected in five themes. These are underlining, marking, note-taking, reading style, and motivation. The methods that the teacher candidates use the most are taking notes on important parts in a notebook, slow reading to understand, making notes in the spaces at the top and bottom of the pages, underlining important parts, slow reading of think pieces, and fast reading of novels (Table 8).

A participant describes the importance of underlining and taking notes during the reading process as follows. *"I usually underline the books I read, and when I see a couplet that I like very much, I immediately take a note of it. I see benefits in underlining important phrases, and when I re-read the same book and see the phrases that were underlined, I realize how much I have changed over time. Books help you to understand yourself, and you see how much your life has changed just by checking the phrases that you previously underlined. I have many papers that I have used to take notes of essential ideas from the books I have read. I even have some here with me. If you remember the content of a book and can spontaneously talk about it, then it means you have read that book properly."* (1). Some, on the other hand, use methods to provide motivation for reading. *"For some reason, I can't read a book without drinking coffee. I keep thinking of coffee. Even when it is late at night, I drink coffee to start reading."* (7). There are also participants who read books by decorating them using emojis. *"I use colored pencils. I try to underline the phrases I like in different colors. I use emoticons, ok signs, smiley faces, flowers, etc. I also write on post-it notes in order not to*

forget the important sections. In contrast to some of my friends, I do love to draw on my books and write things on them. Some people don't even bend their books. I believe the books have to show that they have been read." (20). Some are quite meticulous about underlining and marking. *"For me, the cover color of the book and the color of the pen that I will use to mark have to be the same. Moreover, I underline the phrases using a ruler, not by my hand. I don't like folding the pages. I use post-it notes where necessary. Also, if the paragraph I liked is very long, instead of underlining the whole paragraph I put quotation marks at the beginning and the end. If the paragraph makes me laugh I put a smiley face or if it makes me sad I put a sad face, so that I can remember my feelings at that moment when I re-read the book."* (24).

Evaluate yourself as a reader?

The participants expressed positive and negative self-criticisms of themselves when evaluating what kind of readers they were. Coding was done according to the way they see themselves. The statements that stand out in their positive self-criticism are being a good reader, trying not to harm the book while reading it, being a regular reader, and thinking that they should read think pieces rather than event pieces. The expressions that stand out in their negative self-criticism are the unwillingness to read the book that teachers necessarily indicate, being an irregular reader, and not being able to read when they are tired of the book (Table 9).

For some teacher candidates reading is an almost inseparable part of their lives. *"I feel as if something is missing when I'm not reading books. I may have homework or presentations to prepare for, and there are times that I can't read, unfortunately. Then I feel like I'm missing something. It's as if I forgot to do something."* (6). Although one of the participants thinks he is a good reader, he has some concerns about the future. *"I think I'm a loyal and good reader. I get a book every month; when I do not have money, I pay by credit card. I feel discontent when I don't buy books. If I am not able to read the book right after I get it, I still read it before the end of the month. But I don't think that's enough. Because our life will not be long enough to read all the books we want. While we are reading books, there are new ones always being written. I want to devote more time to it"* (18). As a reader, there are also aspects that he likes and dislikes. *"I am an objective reader. I am not tied to any ideology. I can read any author. This is a great thing because I'm open to different perspectives. I am an irregular reader and do not have a fixed number of books I read per month. One day I read from morning to evening, the other day I read for half an hour. Do I read a lot of books? It's a lot for others, but not enough for me. The number can be increased."* (24).

How do you think the reading habit is acquired?

Participants' thoughts about the formation of the reading habit are divided into themes as 'at the request of the person' and 'thanks to others'. Codes that stand out in the 'at the request of the person' theme are shaped by intrinsic motivation, one's own will, and when one reads regularly. In the 'thanks to others' theme, the coding that stands out the most is 'thanks to the family' (Table 10).

The opinion of a teacher candidate who acquired the habit of reading on his own was as follows: *"I wasn't much of a reader in elementary school. One of the reasons why I started reading was that I was no longer satisfied with the world. I could not find what I wanted. Then I realized that others felt the same when I came across books written with the same feelings. That is why the books attracted my attention. It is loneliness that encouraged me to start reading. Silence and loneliness, together, increase the value of books a lot."* (1). He expresses the efficiency of the pros of reading in turning into a habit with the following sentences: *"I believe that the reading habit is acquired by re-reading a book that you like. Then you start to feel contented when you realize that your vocabulary is enriched and you start to express yourself more comfortably and then it becomes an addiction. You can't sleep without reading, or you do not consider a day a good day if you do not read that day."* (15).

What does a person's reading habit affect?

The situations affected by a person's having a reading habit were listed under four themes: expression, self-efficacy, thoughts/perspective, and emotions. This indicates that a reading habit affects expression, thoughts, and emotions, while also developing self-efficacy. Features that stand out in a person who has acquired a reading habit are as follows: his/her speech (diction) is smooth, he/she attracts attention with his/her knowledge, it allows one to acquire different perspectives on life, and it develops a person's thoughts (Table 11). Participants stated that reading will contribute a lot to a person. *"Reading affects our conversational skills,* understanding, and point of view. In one of our classes, we have read that a reader cannot be a bad person. The books make the readers more naive. People love to express themselves, be understanding and understandable. Therefore, we need to know how to express ourselves. Reading gives you this ability to express yourself." (5). "Reading develops us culturally. You're accumulating knowledge in a certain culture. This satisfies you. You're happy when you read a quality piece of work. I think it is very effective as a way to express ourselves and develop understanding. It allows you to express yourself by not repeating the same things over and over but sharing new topics you have learned. It also

Table 9. Themes and codes for self-evaluation as a reader.

Theme	Code (f)
Positive self-criticism	Being a good reader (6)
	Not giving up reading, feeling the need (1)
	Loving books (1)
	Being happy to start at an early age (1)
	Inability to sleep on the day one does not read a book (1)
	Buying a book by credit card even if one does not have money (1)
	Being an objective reader (1)
	Not being adherent to ideologies (1)
	Being a regular reader (2)
	Feeling restless when one does not buy a book (1)
	Thinking that one reads more since there are many books to read (1)
	Thinking that one should read think pieces rather than event pieces (2)
	Trying to avoid harming books while reading them (3)
	Feeling incomplete when one cannot read a book (1)
	Orientation to writing through reading (1)
	Devoting time to reading books, not reading just in one's free time (1)
Negative self-criticism	Inability to read another book for a while when influenced by a certain book (1)
	Feeling no regret when one goes to bed without reading a book (1)
	Inability to read when bored with the book (2)
	Inability to re-read a book (1)
	Inability to look up unknown words (1)
	Inability to read several different works at the same time (1)
	Being an irregular reader (3)
	Having days when one doesn't read books (1)
	Thinking that one has missed lots of things due to starting reading late (1)
	Thinking that one has deficiency in creativity (1)
	Not remembering a book read (1)
	Reading the books that one wants, when one should be reading books about literature (1)
	In certain cases, thinking that the book will take time to read (1)
	Considering one's power of interpretation weak (1)
	Not wanting to read the book necessarily indicated by the teachers (4)

affects your creativity. There are so many different worlds in books. I think you also develop your language skills. The way the reader speaks is different; they speak more correctly. Their words are likewise different; the perspective changes with reading. There you see different events; you see different lives and people. That is how you develop a different culture." (18). The distribution of the themes related to the interview questions in this study is shown in Figure 1.

DISCUSSION

In the present study, the aim was to reveal characteristics related to the reading habits of high-level readers. The daily reading times of the candidate teachers range between 30 min and 2.5 h. In research conducted by Yılmaz et al. (2009), the time that students devote to

reading books per day is none at all, less than 1 to 2 h, and 3 to 4 h, and it was stated that usually 1 to 2 h were spent reading books. In addition, regarding when to read, students preferred options such as when they have the opportunity, before going to bed, weekends, and holidays. In the present study, the preferred periods for reading are daytime, evening, before going to sleep, when emotions are intense, and no special time. The reading periods stated in these two studies are not similar. The reason for this could be that the present study completely left the preferences to the candidate teachers via the interview method, and the answers of the survey in Yılmaz et al. (2009) were determined by the researchers and students chose among the options presented. In addition, it is generally seen that quiet, noiseless, non-distracting environments are preferred as reading areas. The candidate teachers focused on the importance of sound, light, and area in the reading

Table 10. Themes and codes related to the formation of reading habits.

Theme	Code (f)
At the request of the person	With intrinsic motivation (4)
	By learning to be respectful to the book (1)
	By wanting to read with a light heart (3)
	By enjoying when reading a book (1)
	When one reads regularly (2)
	By gradually starting with shorter texts (1)
	By starting with books appropriate to a person's level (1)
	By being happy when one reads (1)
	When it helps one to express oneself (1)
	When discovered that one's vocabulary was getting richer (1)
	When one feels uncomfortable when one does not read a book (1)
Thanks to others	Thanks to beautiful books (1)
	Thanks to the teacher (1)
	Thank to the family (4)
	By having book reading sessions in class (1)
	Thanks to the teacher suggesting the right book (1)

environment.

The participants were divided into two groups: those who prefer essays and those who prefer novels. While there were very few participants reading newspapers, more read magazines. Many different genres were represented in the reading preferences of the participants. According to Deniz (2015), students are mostly interested in adventure novels, emotional novels, and storybooks. They were much less interested in poetry and essays with religious content. While half of the students were interested in scientific journals, one-fourth of them did not read any magazines. It is seen that 25% of secondary school students do not read newspapers, and those who read newspapers are interested in sports, politics, celebrities, puzzles, and culture/arts news. In the present study, the low interest in reading novels, newspapers, and magazines coincides with the research findings reported by Deniz (2015), but the preference for informative texts does not match. While most secondary school students in Deniz's (2015) research do not read informative texts, almost half of the participants in the present research read them. This may be because the participants in our study are older and more advanced readers. Similarly, Semerci (2002) determined that university students do not read periodicals. Very few of the participants in the present study read periodicals either. Hughes-Hassell and Rodge (2007) stated that students read magazines, comics, the Internet, books for pleasure, and newspapers. This conclusion does not correspond to the findings of our study. This may also are informed of many situations through technological tools. In the present study, candidate teachers also mentioned why they preferred a certain genre when specifying the genres they liked. In fact, this comprises their purpose for

reading. Hughes-Hassell and Rodge (2007) discerned a range of motivations prompting students to engage in reading, which encompassed reading for enjoyment, acquiring knowledge or educational purposes, seeking relaxation, alleviating boredom, experiencing excitement, forming attachments to literary characters, stimulating cognitive faculties, passing time, finding motivation, and seeking an avenue for escapism. These resemble the candidate teachers' reasons in the present study for choosing genres, such as feeling free of life's troubles while reading, finding the opportunity to think, relaxing, and obtaining information. It is seen that the participants paid attention to the writer, content, and structure of the book and their own psychological conditions, and also they tried to avoid popular writers. However, there are participants who stated that they have soured on a book they loved after it became popular. Therefore, it turned out that high-level readers made an informed choice by evaluating the quality of the book from all perspectives.

There are many works by domestic and foreign writers that the participants cannot forget, which have left a mark on their lives. The reasons for being influenced are the subject of the book, its style and messages, identification with the hero and the author, and its impressiveness. Hughes-Hassell and Rodge (2007) inquired with students regarding their preferred reading subjects, eliciting responses that encompassed topics such as celebrities, sports personalities, individuals or characters who shared common attributes, musicians, peers of a similar age who have accomplished noteworthy feats, animals, fantasy characters, contemporaries grappling with issues like substance abuse or criminality, individuals or characters markedly distinct from themselves, and historical figures. It is seen in the present study that themes such as

Table 11. Themes and codes related to the effects of reading habits.

Theme	Code (f)
Expression	His/her speech (diction) is smooth. (5)
	He/she can express himself/herself well. (2)
	He/she can speak properly and fluently. (1)
	Satisfies the need for being understood. (1)
	Allows one to explain oneself. (1)
	Affects understanding and explaining. (1)
	Allows one to transfer what has been learned. (1)
	Ensures language development. (2)
	Improves vocabulary. (1)
Self-efficacy	Affects the whole life. (2)
	Becomes a role model to his/her family. (1)
	Affects behaviors. (1)
	Has high self-confidence. (2)
	He/she attracts attention with his/her knowledge. (4)
	Affects setting goals. (1)
	Allows establishing a social environment. (2)
	Teaches manners. (1)
	Adds naivety. (1)
	Allows spending quality time. (1)
	Turns our rights to wrongs and our wrongs to rights. (1)
	Teaches that one should not forget the past or the future. (1)
	Teaches people to listen to each other. (2)
Thoughts	Offers a perspective that will evaluate time. (1)
	Allows acquiring different perspectives on life. (9)
	Allows expressing different opinions. (1)
	Teaches looking at things in a different way. (1)
	Improves imagination. (1)
	Enables thinking differently. (1)
	Affects the way intelligence works. (2)
	Ensures respect for differences (religion, language, race). (1)
	Develops a person's thoughts. (6)
	Enables creative thinking. (1)
	Teaches critical thinking. (1)
Emotions	People who have acquired the habit of reading cannot be happy since they question everything. (1)
	Becomes a partner in loneliness. (1)
	Allows one to be happy. (2)
	Gives the ability to express feelings. (1)

subject of the book, hero, and message contain similarities. Characters in books are one of the elements that impress readers most. In addition, personal features, structural features, content features, and extrinsic features affect the participants' reading skills.

The ages at which the participants begin to acquire reading habits vary between 8 and 18. Family members, relatives, teachers, and friends are influential in gaining reading habits. Sometimes it occurs as an internal process without anyone's influence. This has been instrumental for some participants to gain a reading habit,

such as competing with others, taking someone as an example, not finding anything else to do, having problems, experiencing difficulty in work life and understanding the need to improve themselves, and the recognition of what they have gained.

Anderson et al. (1988) state that parents and teachers should give high priority to improving the reading habits of their children and students. Yılmaz (2004) revealed that Turkish parents are utterly indifferent about their children's reading habits. Moreover, in the study by Deniz (2015), families have the greatest influence and the
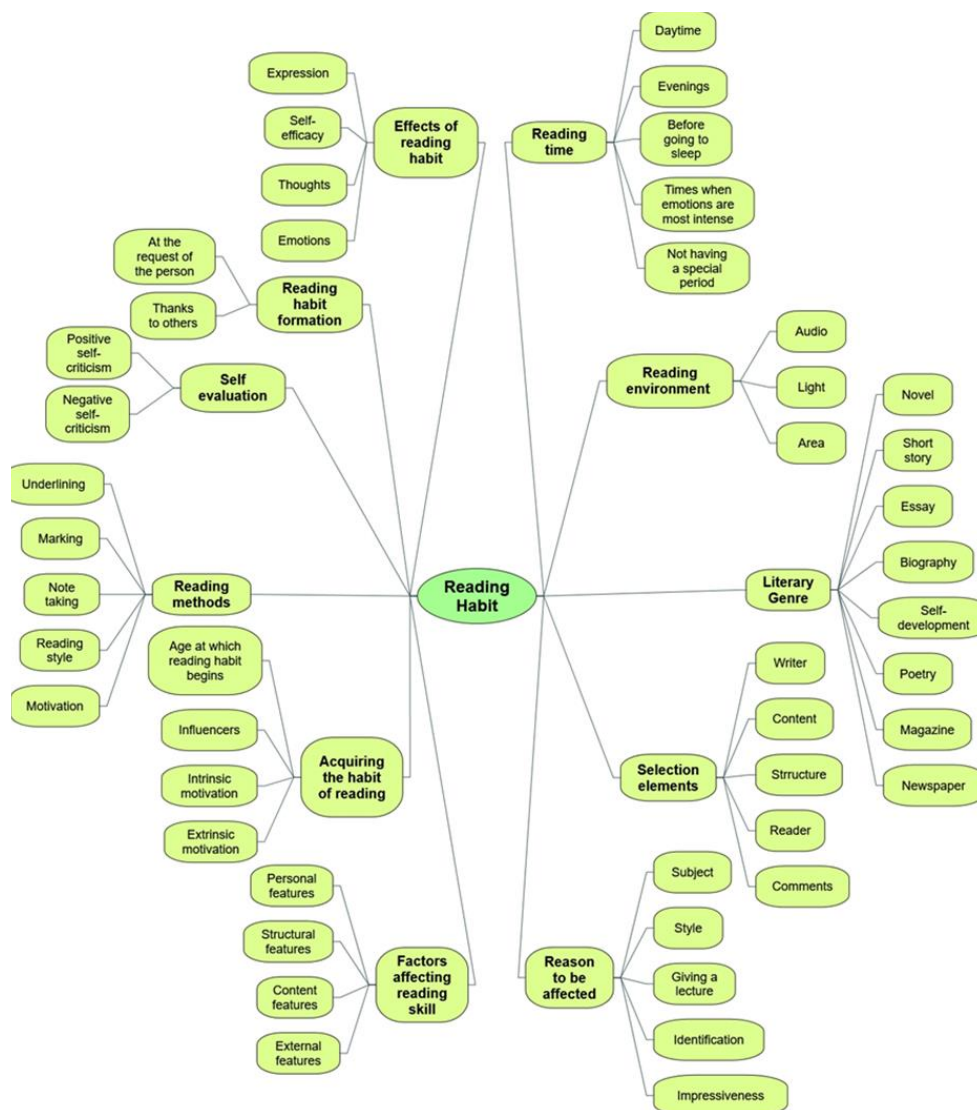
Figure 1. Themes and codes related to reading habits.

media the least influence on the reading habits of students. As outlined by Barone and Barone (2016), an educator extends an invitation to their students, encouraging them to embrace the role of authentic readers. Throughout this journey, the students are afforded the opportunity to articulate and delineate the precise parameters of what this designation entails. In the present study, the candidate teachers are most influenced by their teachers. This indicates that teachers play the main role in the development of a reading habit. This confirms the fact that most individuals should have a role model when it comes to reading. In our study, the participants who started reading due to role models began reading at an earlier age, while others began to gain internal motivation, and this process extended to the high school and university period. As posited by Anderson et al. (1985), the act of reading, akin to

mastering a musical instrument, is not an achievement reached definitively at a particular age. Instead, it is an acquired skill that advances progressively with persistent practice and engagement. Although the candidate teachers have acquired the reading habit at different ages, this indicates that it is acquired once at a certain age and it is sustained.

The participants used the following methods while reading: underlining; using appropriate emojis for content; using signs such as stars, exclamation marks, arrows, and quotes; using notes; writing opinions; using a dictionary; and reading the general outline of the book. Güneş (2009) also mentions that one can use methods such as underlining, circling, framing, using clues or making symbols, following text logic, making notes on different parts of the page, and making reading slips while following the in-depth reading. The present study

shows that our participants use in-depth reading methods when reading. As articulated by Grabe (1991), the progression of reading skills occurs incrementally; fluency in reading does not manifest abruptly or instantaneously, even after participating in a reading development program. Instead, the attainment of fluent reading is the outcome of sustained, protracted endeavor and step-by-step enhancement. The candidate teachers stated that they can use speed reading, but prefer to use it for event pieces rather than for think pieces.

The participants positively and negatively criticized themselves as readers. They described themselves as good, beautiful, loyal, objective, regular, and empathetic readers. Some participants emphasized that they could not stop reading and they felt something was missing when not reading. Yılmaz et al. (2009) found that university students had weak reading habits. Furthermore, it was seen that the students did not read regularly and in general they would purchase the books they would read. Students are often unable to read due to lack of time. In our study, since high-level readers were interviewed, in general, they were regular readers, they considered themselves good readers, and they even tried to correct any issues they had with their habits. It was discovered that readers felt sad if they went a day or two without reading. The participants usually buy the books they read and sometimes use the library.

According to the participants, the habit of reading is formed by choosing as a role model a teacher or someone from the family or surroundings and by selecting the right book for the person. According to Yılmaz's (2004) study, reading habits were not sufficiently developed in the class teacher candidates. The lack of a reading habit in the family, previous learning experiences, economic reasons, and the frequency of radio/TV/Internet use were given as reasons for the absence of this habit. Ogunrombi and Adio (1995) state that a lack of good reading skills prevents good reading habits among students. In accordance with the findings presented by Wigfield et al. (2004), educators are encouraged to actively foster intrinsic motivation for reading within the classroom environment. This cultivation of intrinsic motivation not only contributes to the development of reading skills but also holds the potential to engender sustained, long-term engagement with reading. Additionally, as demonstrated by Hughes-Hassell and Rodge (2007), a noteworthy correlation exists between individuals' leisure reading orientation and their academic achievement. Thus, it is imperative for educators to facilitate a comprehensive understanding of leisure reading habits among young learners. Ogunrombi and Adio (1995), in their research on libraries in schools, state that students' family histories contribute little to their reading habits since very few homes had libraries. Therefore, it is necessary that the house helps the school in the education of children. In our study, many participants stated the importance of the family and

having a library at home. According to the results reported by Strommen and Mates (2004), the family should invest in showing children the pleasure of reading aloud regularly, they should make accessible books suitable for the age and interest of the child as the child matures, they should provide a model for children to imitate, and the interest should be encouraged by scheduling family reading periods, by showing the social nature of reading, and via chats on the books the family members read. According to Anderson and Pearson (1984), being a good reader requires a rich curriculum with concepts from everyday life and areas of study learned. Being a good reader needs books that explain how and why everything works. Being a good reader depends on teachers who insist that students think about the connections between ideas when reading. According to the results of our and other studies, it can be argued that the teacher and family are the most important elements in the development of the child's reading habit.

According to the present research, a person's reading habit affects his/her understanding and storytelling style, perspective on life, relations with the social environment, mood, knowledge, and self-efficacy. Ogunrombi and Adio (1995) state that a lack of good reading skills prevents good reading habits among students. Having a reading habit in an individual affects his/her comprehension and expression, perspective on life, relationships with the social environment, emotion, and knowledge. The findings of the two studies are similar in this respect.

Barone and Barone (2016) assert that proficient readers typically engage in several behaviors, including reading for enjoyment, engaging in book-related discussions, demonstrating a propensity to complete the books they commence, forming connections with characters within the narrative, frequently opting for specific literary genres, dedicating extended time to reading activities, and consuming a substantial volume of boks. By exhibiting many of these features during the interview process, the participants once again showed that they were high-level readers.

Consequently, the reading environment and book selection are the points high-level readers pay attention to. On a daily basis, these individuals allocate dedicated time to reading books and employ their unique reading approaches during the reading process. Despite their impressive annual consumption of literature, ranging from 30 to 100 books, they still acknowledge areas in which they aspire to enhance their reading skills. The cultivation of their reading habits begins during their formative years, influenced either by a role model or a supportive figure within their social milieu. The internalization of this reading habit typically commences when individuals recognize an intrinsic urge to read; however, its full development typically occurs during later stages, notably during high school and university education.

This study underscores the preeminent role played by the immediate social environment, encompassing

parents, relatives, teachers, and friends, as the primary determinant influencing an individual's reading habits. Furthermore, given the diverse experiences, perspectives, and emotions pertaining to reading among the participants, it is apparent that their unique reading orientations, desires, expectations, and the process of uncovering personal meaning within the realm of reading collectively contribute to their status as high-level readers.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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This study assessed the teacher placement and utilization and their impact on Basic Education Certificate Examination (BECE) performance in the Kassena/Nankana Municipality. The study has the following objectives: Factors influencing teacher placement in public basic schools and the impact of teacher placement on BECE performance. The study gathered data from 99 teachers from 10 Junior High Schools in the Municipality through questionnaire administration. The data on BECE performance of schools were obtained from the schools over 2015-2019. The schools were made up 5 urban and 5 rural schools. All descriptive analysis was done with SPSS, version 21.0. The study based on Hausman specification test, used random effect model to estimate the impact of teacher placement and utilization on BECE performance of the selected schools. Majority of the respondents considered ability to speak the local language, good health facility, easy access to professional development, access to information and modern technology in the community before accepting posting. It was however revealed that peace and harmony are only condition helping to retaining teachers. Teachers taught skills and knowledge acquired at the colleges of education, they were also made to handle other subjects outside their field. Teacher placement has significant positive influence on BECE performance of the schools.

Key words: Placement, students' performance, teacher, access, skill.

INTRODUCTION

Education aids the development of learning and knowledge, skills and values. It promotes integration of groups of people. This could be achieved through discussion, storytelling, training, teaching and research. Learners are often guided by educators or through autodidactic learning approach (Dewey, 2010). This shows that teachers play crucial role in the achievement of educational goals. The success of education is thus largely dependent on the effectiveness of its human resources. Though financial and infrastructural resources

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are needed to achieve educational goals, these are passive.

The most vibrant factor within an organization, such as a school, that should be leveraged to transform passive elements and ensure productivity is the human factor.

Giles (2018) indicated in a World Bank special report that a healthy and educated population is the bedrock for economic success, uplifting living standards and the dignity of people worldwide, particularly those on the lowest income. He asserted that human capital has repeatedly been noted to be the core of development. In developing countries especially, due to educational budget challenges, the interest in the development, utilization and placement of teachers has been accentuated by stakeholders with the view to maximizing the available teaching force.

In Ghana, education is formally divided into stages, namely basic education (Kindergarten, primary school and Junior High school), secondary education (Senior High School, Senior High Technical School, Technical and vocational School) and tertiary schools (university, polytechnic and colleges) (Atuahene, 2013). The Junior High School system of education is intended to generate school graduates imbued with the needed theoretical and practical skills necessary for the development of society. The successful implementation of the Junior High School curricula requires quality and dedicated educators for the training of pupils and support for society. Stakeholders however, complain about inadequate and improper placement and utilization of required teachers in the Junior High Schools in Ghana. Teacher placement and utilization has been a major problem in the education system. Aheto-Tsegah (2011) noted that deployment of teachers remains a challenge in Ghana. Rural communities continue to suffer when it comes to teacher distribution. Trained teachers deployed to rural communities remain very low at the basic level with 31, 51, and 66% for Kindergartens, Primary and Junior High Schools, respectively.

In addition, skills and knowledge acquired by the teacher are very rich resources which must be utilized to bring about effective teaching and learning. The emerging picture is that qualified teachers who are required to teach in core subject areas seem to be in short supply. The distribution of teachers to teach subjects such as Mathematics, English Language, Integrated Science and Social Studies is less than what is required. This has resulted in some teachers of the core subjects teaching more than the required number of periods per week.

It is for this reason, this study sought to examine how teachers are placed and utilized at public Junior High Schools; and the effect of such placement on Basic Education Certificate Examination (BECE) performance in the Kassena/Nankana Municipality. The study specifically sought to find answers to the following questions:

1. What is the Pattern of BECE Performance in the Kassena/Nankana Municipality between 2015-2018
2. What factors influence teacher postings in the Kassena/Nankana Municipality most?
3. What are the conditions affecting Teachers' Acceptance of Posting in rural areas?

Manpower theory

The study was underpinned by the Manpower Utilization Theory of Dyer and Reeves (1995). The theory emphasizes on 2 quality and quantity of manpower variables. Manpower utilization consists of putting the right number of people, right kind of people at the right positions, doing the right things at the right time which are necessary to the achievement of organizational goals. Manpower is often used interchangeably with human resource. Fatai (2016) claimed that manpower involves availability of labor for any type of work in an establishment. It covers all the people with the prerequisite skills, knowledge, attitudes, energies and the talents, which can be channeled effectively towards the production of goods and services (Gbosi, 2003). This means that humans can be termed as manpower if they are being put to economic use as resources intended to generate wealth. The emphasis on quantity and quality demonstrates that the more the labor forces in the right quantity, the higher the productivity. Likewise, the higher the educational qualifications and competencies of the worker, the higher is the quality of performance.

This theory is applicable to teacher placement and utilization in the Junior High School system. The school system is responsible for producing the manpower needs of the nation. The quality of graduates produced by the school, will determine the quality of manpower in the country. The foundation of education matters, and as such the basic sector of education demands quality. The provision and effective utilization of appropriate resources are essential for driving improvements in educational performance. Classrooms and class sizes play a significant role in delivering quality education. A lower Pupil-Teacher Ratio has been associated with higher educational quality (Black and Smith, 2006). The more effective educational authorities and administrators deploy, monitor, and supervise teachers, the higher the quality of education delivery. This theory applies to the utilization of teachers in terms of workload allocation, teacher competencies/expertise requirements, supervision/ monitoring roles of school administrators, and management of instructional time.

METHODOLOGY

This study adopted quantitative research strategy. This enabled the

Table 1. Sample size for each accessible school.

Location	Schools	Proportion of the population (rf)	Sample size rf*99
Urban schools	Presby JHS	0.093	9
	Abatey JHS	0.138	14
	Boscos's JHS	0.233	23
	OLL JHS	0.086	9
	Balobia JHS	0.093	9
Rural schools	Gia JHS	0.078	8
	Naaga JHS	0.052	5
	Bui JHS	0.060	6
	Akurugu-daboo JHS	0.093	9
	Yua JHS	0.074	7
	Total	1.000	99

Source: Author's Construct (2022).

researchers to develop knowledge and collect data on predetermined instrument as advocated by Creswell (2003). Quantitative research thus, explains the cause and effect of occurrences by collecting numerical data (Creswell, 2003).

The research designs were both descriptive and explanatory. The design afforded the study the opportunity to describe the situation of teacher placement, and BECE performance in each sampled school. The explanatory research design helped the researchers to establish the impact of teacher placement on BECE performance of the sampled schools. The study population was teachers in Junior High Schools (JHSs) in the Kassena/Nankana Municipal. However, not all the schools were accessible to due proximity challenges and unwillingness of some head teachers to provide actual BECE results of the schools. Table 1 shows the sample size for each accessible school.

The study employed 3 main sampling techniques, namely convenience, purposive and random sampling techniques. Convenience sampling was used to select schools. Convenience sampling is employed where members of the target population meet certain practical criteria, such as easy accessibility, geographical proximity, availability at a given time, or the willingness to participate in a study (Dörnyei, 2005). Expert purposive sampling was employed in selecting informants with specific and relevant information. Random sampling was employed to select the teachers.

The study used structured questionnaire among others to collect the primary data. Each question has predetermined responses from which the respondents chose responses. This helped the researchers in gathering quick but standardized information for the respondents. The questionnaire targeted; students' performance pattern of BECE in Kassena/Nankana Municipal and reasons of current BECE performance in the schools.

The data collected were first cleaned, coded and analyzed statistically with the aid of the Statistical Package for Social Scientists version 21.0. Descriptive statistics were computed and frequency tables were used in presenting information on the socio-demographic and job characteristics of the respondents. The study further used frequency tables with weighted average and standard deviations to determine the state of teacher placement, teacher utilization and factors determining each. This study employed a decision rule on weighted average to determine whether or not teacher utilization in a school is effective or not and whether a

particular variable determine teacher placement and utilization or not.

The fixed effect model which estimates relationship between predictor(s) and result variables within an establishment such as a company. It is acknowledged that some confounded variables could influence the predictor variables which in turn could affect the outcome variable. Hence the Fixed Effect Model (FEM) helps in controlling such unintended individual specific characteristics. According to the model, every individual unit is exclusive and there should be no association between individual unit's error term and constant term since the constant term captures all the individual units' characteristics. Based on this supposition, in event where the error terms are connected, the fixed effect model becomes inappropriate. The general formula for fixed effect model is summarized in Equation 1.

$$Y_{it} = \beta X_{it} + \alpha_i + U_{it} \tag{1}$$

α_i (i=1....n) is the unknown intercept for each entity; Y_{it} is the dependent variable; i= entity (in this study, country); t= time; X_{it} represents one independent variables; β is the coefficient for independent variables; unit is the error term

According to Torres-Reyna (2007), in the situation where the unobserved variable does not change over time, then any changes in the dependent variable may be due to influences other than these fixed characteristics. Based on Bartels (2008), the coefficients in this model is interpreted as given in a country, as a predictor varies, the outcome variable varies by the value of the coefficient of the predictor.

RESULTS AND DISCUSSION

Personal information of the respondents

The socio-demographic characteristics of the respondents are listed below which were of interest to the included sex, academic qualification, years of service and rank in the Ghana Education Service.

Table 2. Personal information of the respondents.

Variable	Categories	Frequency (F)	Percentage
Sex	Male	44	44.4
	Female	55	55.6
	1-5	12	12.2
	6-10	24	24.2
Year in service	11-15	19	19.2
	16-20	33	33.3
	21-25	11	11.1
	Post-Secondary	16	16.2
Qualification	Diploma	25	25.2
	First Degree	58	58.6
	Senior Supt. I	11	11.1
Rank in GES	Principal Superintendent	52	52.5
	ADE II	33	33.3
	ADE I	3	3.1

Source: Author's Construct (2022).

From Table 2, majority of the respondents (58.6%) had first degree and the remaining 25.2% had diploma and 16.2% had their post-secondary education qualification. This indicates that most of the respondents had professional qualification in teaching at Junior High School. Educated and professional teachers are often more occupationally mobile. In this regard, the school management in The Kassena/Nankana Municipality can help retain such teachers by motivating them through various means such as opportunity to pursue higher professional training. Table 2 indicates that the respondents had many years of experience with 12.2, 24.2, 19.2, 33.3 and 11.1% having 1-5, 6-10, 11-15, 16-20- and 21-25-years working experience respectively. It further shows the ranks of the respondents Senior Supt I (11.1%), Principal Superintend (52.5%), ADE II (33.3%) and Assistant Director of Education I (3.1%). The results showed that the respondents have enough teaching experience and expertise, hence they could teach based on syllabus for a specific subject with effective classroom management, leading to effective teaching and teacher utilization in the schools.

Females dominate as teachers in the selected Junior High Schools in the Kassena/Nankana Municipality. Women dominance in the sampled schools was due to the fact that one of the selected schools (OLL Junior High School) was female's school. It could also suggest that women are said to have more emotional and practical attachment to younger children and have nurturing skills

than men because they are the ones who look after and bring up their own children at homes. The higher number of female teachers in the sampled schools also connotes that more women are now enrolled in higher education, thus, many turning out to be teachers (Maslin-Ostrowski 2012). Thus male-female gap in education seems to be closing rapidly in Ghana. The higher number of female teachers has positive implications for teacher utilization in the junior high school in the Kassena/Nankana Municipality. This is because, women are seen to be more committed to duty and obedient than men; hence they are more likely to follow instructions and accept additional roles and perform such additional roles effectively, leading to effective utilization (Bridges, 2012).

Pattern of BECE performance in the selected schools

To be able to relate teacher placement and utilization to BECE performance, it was prudent to establish how pupils have performed in the BECE over specified number of years. Information obtained from secondary data from selected urban and rural schools in the Municipality revealed the picture of BECE performance in the schools over a period of 5 years as follows. The line graph for the average BECE performance of the selected schools is shown in Figures 1 to 3.

From Figure 2, considering the line of perfect fit, the selected JHS in the Kassena/Nankana Municipality had
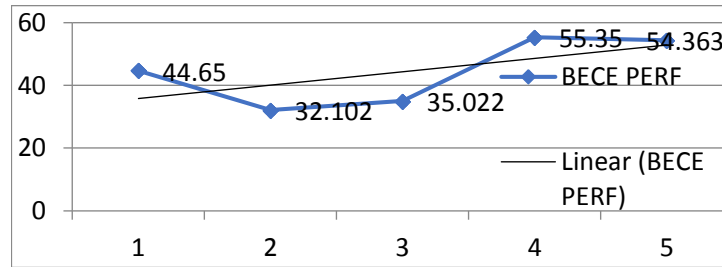
F**igure 1.** Line graph for overall average BECE performance over 2015-2019.
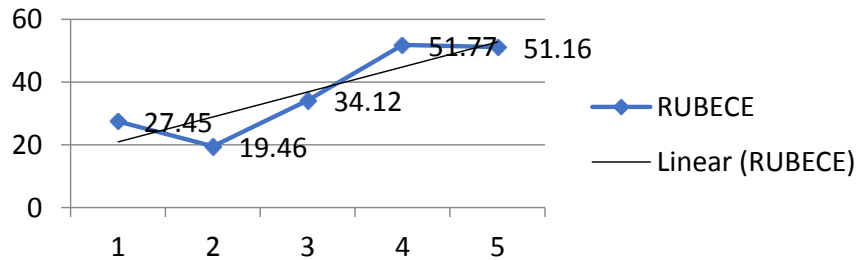Source: Kassena/Nankana municipal education office.

Figure 2. Average BECE Performance for Selected Rural Schools over 2015-2019.
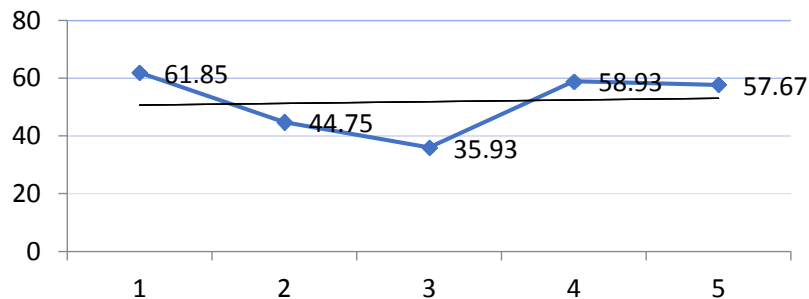Source: Kassena/NankanaMunicipal education office.

Figure 3. Average BECE performance for selected urban schools over 2015-2019.
Source: Kassena/Nankana municipal education office.

good BECE performance in the core subjects in the year 2015, 2018 and 2019. However, BECE performance in 2016 and 2017 was poor, though the performance rose in 2017 from 32.102 to 35.022. Considering the location of the selected schools (Figures 2 and 3), the rural schools had poor BECE performance in 2016, 2017 and 2019, though there was great increase in performance in 2017 over 2016 from 19.46 to 34. The selected schools in urban communities had good BECE performance in 2015,

2018 and 2019. However, in 2016 and 2017 the selected schools in urban communities had poor performance with a greater fall in BECE performance in 2017 over 2016 from 44.75 to 35.93.

The results clearly show that the selected schools had poor BECE performance in 2016 and 2017 but good performance in 2018 and 2019. From the study it was obtained from the Head Teachers of the schools that most of the teachers upgraded themselves through higher

Table 3. Perception on factors influencing teachers' posting to rural communities.

Statements	V.I	I	Q.I	N.I	M	SD	Ranking
Ability to speak local language	43(43.4)	24(24.3)	21(21.2)	11(11.1)	2.0000	1.04978	6th
Decent accommodation in the community	75(75.8)	6(6.0)	7(7.1)	11(11.1)	1.5354	1.03325	1st
Health facilities in the area	68(68.7)	12(12.1)	13(13.1)	6(6.1)	1.5657	.93854	2nd
Access to information and modern technology	52(52.5)	24(24.3)	15(15.1)	8(8.1)	1.7879	.98222	3rd
Easy access to professional development	48(48.5)	27(27/3)	11(11.1)	13(13.1)	1.8889	1.05839	4th
Available educational development	37(37.4)	40(40.4)	12(12.1)	10(10.1)	1.9495	.95162	5th
Recreational/entertainment facilities	21(21.2)	19(19.2)	33(33.3)	26(26.3)	2.6465	1.09090	8th
Financial rewards	39(39.4)	26(26.3)	12(12.1)	22(22.2)	2.1717	1.17838	7th

V.I=very important, I= important; Q.I=quite important; N.I= not important; M=mean; SD= standard deviation; frequencies are outside the parenthesis and percentages are in the parenthesis.
Source: Field Data (2020).

education in the year 2016 and 2017. Those with Diploma in education pursued first degree through distance education with University of Cape Coast and University of Education, Winneba. Combining schooling and work, suggests that the teachers were over stressed during the period (2016 and 2017) and this might have undermined their productivity; hence, lower performance of their students in BECE. It was disclosed further that certain government interventions such as mass teacher recruitment through NOBCO programme, government absorptions of BECE registration fees and mass supplies of teaching and learning materials might have also contributed to increase in BECE performances of the selected schools in 2018 and 2019.

From Table 3, the respondents noted that it is very important (43.4%), important (24.3%), quite important (21.2%) and not important (11.1%) to consider the ability to speak the local language of the people before accepting posting. This means that majority of the respondents noted that it is important (M =2.000; SD = 1.04978) to consider the ability to speak the local language of the people before accepting posting. Ghana for example, has many ethnic groups with different languages; hence language is one of the important criteria for accepting posting in Ghana (Coultas and Lewin, 2002).

Teachers who have challenges speaking the language of the community in which they teach may feel isolated professionally and socially in the area. Though the medium of instruction in Ghanaian schools is Ghanaian language from kindergarten through to primary 3 and English language from primary 4 upwards, understanding of the local language of the pupils can help to smooth lesson delivery even if a teacher teaches in upper primary or any of the upper levels. Most teachers would, therefore, prefer to teach in areas where they are conversant with the local language.

From Table 3, the respondents noted that it is very

important (75.8%), important (6.0%), quite important (7.1%) and not important (11.1%) to ensure that there is decent accommodation in the community before accepting posting. This means that majority of the respondents noted that it is important (M =1.5354; SD= 1.03325) to ensure that there is decent accommodation in the community before accepting posting. The interaction with the teachers in the sampled schools revealed that most of the student-teachers in the colleges of education are from urban communities where accommodations have basic facilities like electricity, water, bath house and toilet facility. This implies that most of the teachers are used to staying in a good accommodation. Thus, where these teachers live and sleep is very important to them and they expect communities in which they live and teach to have similar if not the equivalent standard of accommodation. From the Human Resource Department of Kassena/Nankana Municipal Education Directorate, most of the teachers in this municipality live in rented homes with few in their own houses. However, most of the houses in the rural communities and some in urban communities do not have toilet facility and pipe borne water which are essential facilities or amenities. As a result, most of the teachers in the Municipality live in urban communities with decent accommodation regardless of where they teach (either rural or urban communities) and trek on motor bicycles to the schools, to and fro.

Table 3 shows that the respondents noted that it is very important (68.7%), important (12.1%), quite important (13.1%) and not important (6.1%) for a teacher to find out if there is a health facility in the area before accepting posting. This means that majority of the respondents noted that it is important (M =1.5657; SD= 0.93854) for a teacher to find out if there is a health facility in the area before accepting posting. Gussin et al. (2013) noted that teachers in rural communities are exposed to greater health risk such as malaria, diarrhea and cholera due to

poor sanitations in most rural communities. As a results most professional teacher prefers to leave in rural communities where there is acceptable health facility to ensure easier access to healthcare, in times of ailment or sickness.

Respondents noted that it is very important (48.5%), important (27.3%), quite important (11.1%) and not important (13.1%) to ensure that there is easy access to professional development in the community before accepting posting. This means that majority of the respondents noted that it is important (M =1.8889; SD= 1.05839) to ensure that there is easy access to professional development in the community before accepting posting. Professional development is part of the teaching profession as every teacher wish to be promoted from a lower grade to a higher grade, though such promotion most often do not depend on post-graduate education, but it facilitates the promotion. Educational advancement is easier and cheaper in urban communities than rural communities. This is because urban communities have more of the tertiary institutions, thus, paving way for teachers in urban communities to have higher education, even when study leave is not granted. However, most teachers in rural communities, due to distance barrier have to rely most often on study leave to stay on university campuses for higher education; thus, professional advancement has become one of the important criteria for accepting posting in Ghana. It is therefore not a surprise for respondents to indicate that they consider availability of educational facilities.

The respondents further noted that it is very important (21.2%), important (19.2%), quite important (33.3%) and not important (26.3%) to ensure that there are recreational/entertainment facilities in the community before accepting posting. This means that majority of the respondents noted that it is quite important (M =2.6465; SD= 1.0909) to ensure that there are recreational/ entertainment facilities in the community before accepting posting. Prior to technological advancement, physical structure for recreation and entertainment was very important to people. However, with technological advancement physical structure for entertainment is gradually fading out as all forms of entertainment can be accessed on the media, both social media (for example Facebook, Youtube, etc) and traditional media (for example radio and television). Television for example has a host of entertainment programs suited for the family and every teacher nowadays at least can afford television to enjoy such programs; hence most teacher do not consider physical place for recreation and entertainment for accepting posting. To ensure access to entertainment and effective communication, respondents further noted that it is very important (52.5%), important (24.3%), quite important (15.1%) and not important (8.1%) to ensure that there is access to information and modern technology

in the community before accepting posting. This means that majority of the respondents noted that it is important (M =1.7879; SD= 0.98222) to ensure that there is access to information and modern technology in the community before accepting posting. Teachers believe that urban areas are far advanced in terms of technology and facilities which would make their lives more comfortable (Whitelaw, 2012). Access to information technology would help teachers to have regular access to entertainment on social media to release stress from hard day's work.

Table 3 displayed that respondents noted very important (39.4%), important (26.3%), quite important (12.1%) and not important (22.2%) to ensure that there is an availability of financial rewards in the community before accepting posting.

This means that majority of the respondents noted that it is important (M =2.1717; SD= 1.17838) to ensure that there is an availability of financial rewards in the community before accepting posting. Every worker wants to be motivated and one of the key tools of motivation is financial incentive. Therefore, every teacher wants to live in communities where parents recognize their efforts and motivate them accordingly. Some schools through Patent Teacher Association (PTA) and some communities through District Assemblies have instituted financial incentives and prizes for teachers. These schools and communities tend to have higher retention rate for teachers, as compared to schools and communities without these incentives and packages (Gussin et al., 2013). Aside this, teachers earn extra income through the organization of extra classes and vacation classes for students. These classes are supported and patronized by pupils in the urban communities than in the rural. This presupposes that teachers in the urban communities can earn more income than those in the rural communities. From the ranking, the 5 most important factors (in ascending order) the teachers consider before accepting posting are decent accommodation, heath facilities, access to information and modern technology, easy access to professional development, availability of good schools.

Conditions affecting teacher placement most in public basic schools in the Kassena/Nankana municipality

This part of the study focused on research question 2; "to determine the factors that influence teachers' acceptance of posting in public basic schools in the Kassena/Nankana Municipality". In other to address this objective, this study was guided by literature where key teacher placement factors were considered as shown in Table 3. The responses were in the form of four-point likert scale ranging from Strongly Disagree (S.D) (1) to Strongly

Table 4. Community conditions.

Statement	SD	D	N	A	SA	Mean	Std. Dev.	Ranking
Descent accommodation	10(10.1)	17(17.1)	28(28.3)	26(26.3)	18(18.2)	3.2525	1.23175	4th
Good health facility	15(15.2)	4(4.0)	33(33.3)	32(32.3)	15(15.2)	3.2828	1.22924	2nd
Quality access to internet	16(16.2)	16(16.2)	28(28.3)	22(22.2)	17(17.1)	3.0808	1.31457	5th
Quality access to all telecommunication re	28(28.3)	24(24.2)	16(16.2)	22(22.2)	9(9.1)	2.5960	1.34710	7th
Quality educational facilities	7(7.1)	17(17.2)	38(38.3)	16(16.2)	21(21.2)	3.2727	1.18510	3rd
Availability of recreational facilities	44(44.4)	31(31.3)	16(16.2)	7(7.1)	1(1.0)	1.8889	.98860	8th
Fluency in the local language	0(0.0)	22(22.2)	66(66.7)	11(11.1)	0(0.0)	2.8889	.56944	6th
Peace and harmony and relationship	0(0.0)	1(1.0)	2(2.0)	40(40.4)	56(56.6)	4.5253	.59493	1st

Source: Field Data (2020); SD= Strongly Disagree; D=Disagree; N= Neutral; A= Agree and SA= Strongly Agree; Std. Div.=Standard Deviation; frequencies are outside the parenthesis and percentages.

Agree (S.A) (5), where mean range of 1.000-1.490; 1.500-2.4900; 2.500-3.4900 and 3.500-4.000 implies that a particular factor is "very important", " important", "quite important" and "not important" to the respondents. The results were presented in Table 4.

The results in the Table 4 show that 10(10.1%) of the respondents strongly disagreed, 17(17.1%) disagreed, 28(28.3%) were neutral whiles 26(26.3%) agreed and the remaining 18(18.2%) strongly agreed that the communities have decent accommodation. This means that majority of the respondents were neutral (M =3.2525; SD = 1.23175) that decent accommodation is provided by the community in which they are currently staying to teach.

Table 4 identified that 15(15.2%) of the respondents strongly disagreed, 4(4.0%) disagreed, 33(33.3%) were neutral, 32(32.3%) agreed and 15(15.2%) strongly agreed that the communities have good health facility. This means that majority of the respondents were neutral (M =3.2828; SD = 1.22924) that good health care facility is been provided by the community in which they are currently staying to teach.

Table 4 shows that 16(16.2%) of the respondents strongly disagreed, 16(16.2%) disagreed, 28(28.3%) were neutral, 22(22.2%) agreed and 17(17.1%) strongly agreed that there is quality access to internet in the communities in which they are currently staying to teach. This implies that majority of the respondents were neutral (M =3.0808; SD = 1.31457) that there is quality access to internet at the community in which they are currently staying to teach.

Table 4 indicates that 28(28.3%) of the respondents strongly disagreed, 24(24.2%) disagreed, 16(16.2%) were neutral whiles the remaining 22(22.2%) agreed and 9 (9.1%) strongly agreed that there is quality access to all telecommunication receptions in the community in which they are currently staying. This also indicates that majority of the respondents were neutral (M =2.5960; SD = 1.34710) that there is quality access to all

telecommunication receptions in the community in which they are currently staying.

Going further, the Table 4 indicates that 7 (7.0%) of the respondents strongly disagreed, 17(17.2%) disagreed, 38(38.4%) neutral and 16(16.2%) agreed whiles the remaining 21(21.2%) strongly agreed that quality educational facilities are available in the community in which they are currently staying. This implies that majority of the respondents were neutral (Mean =3.2727; Std. dev. = 1.18510) that quality educational facilities are available in the community in which they are currently staying. It is also observed from the Table 4 that 44(44.3%) of the respondents strongly disagreed, 31(31.3%) disagreed, 16 (16.2%) were neutral, 7 (7.1%) agreed and the remaining 1(1.0%) strongly agreed that quality recreational facilities are available in the community in which they are currently staying to teach. This implies that majority of the respondents disagreed (M =1.8889; SD = .98860) that quality recreational facilities are available in the community in which they are currently staying to teach.

Table 4 further revealed that 22(22.2%) of the respondents disagreed, 66(66.7%) were neutral whiles the remaining 11(11.1%) agreed that they are fluent in the local language of the community in which they are currently staying. This indicates that majority of the respondents were neutral (M =2.8889; SD =0.56944) that they are fluent in the local language of the community in which they are currently staying.

The results also shows that 1(1.0%) of the respondents disagreed, 2(2.0%) were neutral, 40(40.4%) agreed and the remaining 56(56.6%) strongly agreed that there is peace and harmony among indigenes and neighbors in the community in which they are currently staying to teach. This implies that majority of the respondents strongly agreed (M =4.5253; SD =0.59493) that there is peace and harmony among indigenes and neighbors in the community in which they are currently staying to teach.

Thus, from Table 4, the ranking scores and Mean

Table 5. Job related or working conditions available to teachers.

Statement	SD	D	N	A	SA	Mean	Std. div.	Ranking
Special and quick professional advancement	2(2.0)	16(16.2)	56(56.6)	17(17.1)	8(8.1)	3.1313	.85292	2nd
Special financial incentive	45(45.5)	35(35.3)	9(9.1)	7(7.1)	3(3.0)	1.8788	1.04269	3rd
Special incentive in kind	6(6.1)	22(22.2)	26(26.3)	23(23.2)	22(22.2)	3.3333	1.22057	1st
Free accommodation	50(50.5)	30(30.3)	10(10.1)	9(9.1)	0(0.0)	1.7778	.96421	4th

Source: Field data (2020); SD= Strongly Disagree; D=Disagree; N= Neutral; A= Agree and SA= Strongly Agree; Std. Div. =Standard Deviation; frequencies are outside the parenthesis and percentages are in the parenthesis.

Scores show that community conditions that are good in the sight of the respondents and are helping retain teachers in the communities are peace and harmony. The study further asked the respondents the job related or working conditions that are available to them in their respective schools and the responses captured in Table 4.

The results in Table 5 shows that 2(2.0%) of the respondents strongly disagreed, 16(16.2%) disagreed, 56(56.6%) were neutral whiles 17(17.1%) agreed and the remaining 8(8.1%) strongly agreed that there is a special and quick professional advancement available to teachers at post in their communities. This means that majority of the respondents were neutral (M =3.1313; SD = 0.85292) that there is a special and quick professional advancement available to teachers at post in their communities.

Table 5 again identified that 45(45.5%) of the respondents strongly disagreed, 35(35.3%) disagreed, 9 (9.1%) were neutral, 7(7.1%) agreed and 3(3.0%) strongly agreed that there are special financial incentives provided for teachers at post in their community. This means that majority of the respondents disagreed (M =1.8788; SD = 1.04292) that there are special financial incentives provided for teachers at post in their community.

Table 5 further shows that 6(6.1%) of the respondents strongly disagreed, 22(22.2%) disagreed, 26(26.3%) were neutral, 23(23.2%) agreed and 22(22.2%) strongly agreed that special incentive in kind are available for teachers at post in their community. This implies that majority of the respondents were neutral (M =3.3333; SD= 1.22057) that there is a special incentive in kind available for teachers at post in their community.

Table 5 again indicates that 50(50.5%) of the respondents strongly disagreed, 30(30.3%) disagreed, 10(10.1%) were neutral whiles the remaining 9(9.1%) agreed that free accommodation is available to teachers posted to the community to teach. This also indicates that majority of the respondents disagreed (M =1.7778; SD = 0.96421) that there is a free accommodation available to teachers posted to teach in their community.

Though working conditions in Table 4 are ranked from 1st to 4th, none of them is available to the teachers, currently at post in the schools. A situation like this may drive teachers away with the least deterioration. An improvement in the situation can also entice teachers to stay and work in the Municipality. The municipality/ government must strive to improve these conditions in order to retain teachers in the area.

From the analysis of data collected in respect of this research question, the study found that the factors which influence teacher placement most (in ranking order) in public schools in the Kassena/Nankana municipality are; decent accommodation, availability of health facilities, access to information, easy access to professional development, available educational development, financial rewards, and recreational/entertainment facilities. These perceptions by teachers is in consonance with the accession by Barley (2009), and Whitelaw (2012) that teachers may be pushed away from teaching in rural communities where socio- economic infrastructure such as accommodation, health facilities, and school resources are lacking, because the good quality of life they desire may not be guaranteed. Teachers believe that the urban areas are highly advanced technologically which makes access to information faster and professional development easier. The community conditions as pertaining to the Kassena/Nankana municipality which teachers enjoy and which can retain them however, is peace and harmony among indigenes and neighbors. Other job related condition teachers enjoy in the community is special incentives in kind.

This is very positive and can attract teachers. However, more needs to be done to improve on the other factors. They respondents were neutral with regards to the state/ conditions in the community such as; accommodation, good health facilities, quality access to internet, quality access to telecommunication and quality educational facilities. This means there is still room for improvement in terms of these conditions.

Conclusion

Skills and knowledge acquired by teacher are very rich resources which must be utilized to bring about effective teaching and learning. There was poor BECE performance in the Kassana/Nankana Municipality during 2016 and

2017 academic years due to non-availability of teachers within the period. Placement of teachers to teach all courses at the basic level is non-productive, stressful with undermined productivity. Teacher placement has significant positive influence on BECE performance. Teachers accept posting based on a community, the school and job related conditions. Such conditions include but not limited to ability of the teacher to speak the local language of the people, availability of good health facility, easy access to professional development and access to information and modern technology in the community.

Recommendation

It is recommended that Government of Ghana should improve socio-economic conditions of Kassana/Nankana Municipality. The government should pay much attention to provision of good school facilities, healthcare facilities and telecommunication facilities in the communities to ensure effective teaching and learning.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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