

Does Temporal Intelligence Predict Teacher Effectiveness? An Evidence From Saudi Efl Context

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ABSTRACT

Previous literature affirmed that Saudi EFL teachers' effectiveness is not up to the mark. Moreover, there is a dearth of research related to teacher effectiveness in the Saudi EFL context. For that reason, it is deemed essential to conduct research involving the relationship between teacher effectiveness and other variables that have not been tested with it before. Thus, this study aimed to determine the relationship between temporal intelligence and teacher effectiveness among Saudi EFL teachers. A correlational research design was employed in this study. Furthermore, data were collected from 110 Saudi EFL university teachers and their students by using a purposive sampling technique. Data collection instruments included Language Teachers' Temporal Intelligence Scale adopted from Naji Meidani et al. (2020) and Teacher Effectiveness Scale in Higher Education adopted from Calaguas (2013). Findings indicated that temporal intelligence showed a significant and positive relationship with teacher effectiveness. Based on the findings, numerous implications have been offered for EFL instructors and policymakers. For instance, teachers could enhance their teaching effectiveness by making themselves cognizant of time-related practices while teaching. In addition, policymakers could make a policy regarding conducting workshops pertinent to time-related variables (i.e., time management, temporal intelligence, etc.) to improve the effectiveness of language teachers.

Keywords: Temporal intelligence; teacher effectiveness; Saudi EFL teachers; Saudi EFL learners

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Introduction

Education is considered as one of the most significant assets for human beings; therefore, investment in education is imperative for monetary growth and professional development (Anderson, 2004). It is an established truth that education will remain incomplete and unable to accomplish its aims if it is devoid of its facilitators, the teachers (Calaguas, 2013). This is for the reason that instructors are deemed as extremely significant components in the

educational process (Rao & Kumar, 2004). Particularly, instructors not only change the lives of their pupils but also generate a significant influence on the entire educational process (Calaguas, 2013). Hunt (2009) reviewed the literature pertinent to teacher effectiveness and concluded that teachers are responsible for almost 30% of variance in the academic achievements of the students. As the teachers are of utmost importance for the smooth functioning of educational system, it is considered

indispensable that they teach effectively (Calaguas, 2013).

Although teacher effectiveness is an important concept in every domain; however, it is particularly important in teaching English as a foreign language (EFL) as English is a lingua franca and need of today's time. For that reason, EFL teachers need to be effective to deliver the correct and valuable knowledge to EFL learners. In Saudi EFL context, the government of Saudi Arabia is spending a hefty chunk of their budget to hone the teaching skills of Saudi EFL teachers (Rehman & Alhaisoni, 2013). In spite of government's efforts to improve the standard of English language teaching, it is evident from the literature that Saudi EFL teachers lack effectiveness (Al-Zahrani & Rajab, 2017; Shah et al., 2013). Previous researchers quoted several factors responsible for lack of effectiveness of Saudi EFL teachers including lack of qualification (Javid et al., 2012), dearth of instructors' training (Alrabai, 2016), lack of technology usage in the classroom (Alrabai, 2016), teacher behavior (Alrabai, 2016), and unsuitable teaching method (Alrabai, 2016; Shehzad et al., 2019). However, they did not consider the role of time-related variables in teacher effectiveness. Majority of the previous studies on time related variables have been conducted in the domains of sociology, psychology, marketing, and management and organization studies (Francis-Smythe & Robertson, 1999); however, there is a paucity of research in education and EFL context (Naji Meidani & Pishghadam, 2019; Naji Meidani et al., 2020). To be more particular, the variable of temporal intelligence has merely been described for managers and administrators. In view of the fact that instructors are administrators of their classrooms, correspondingly this variable can be applicable to them (Naji Meidani et al., 2020). Naji Meidani et al. (2020) affirmed that teachers' cognizance of time while taking a class plays a pivotal role in their effectiveness.

Researchers' interest in variables regarding the concept of time has initiated from early years of the 20th Century (Naji Meidani et al., 2020). Since then, numerous variables and their facets have been offered pertinent to the notion of time. A novel idea that has surfaced from time-related works is 'Temporal Intelligence' (Clemens & Darlyrmp, 2005). From the last few decades, it has been determined that the

concept of intelligence has manifold dimensions including multiple intelligencies (Gardner, 1993), social intelligence (Kihlstrom & Cantor, 2000), swarm intelligence (Eberhart et al., 2001), cultural intelligence (Earley & Mosakowski, 2004), emotional intelligence (Alghorbany & Hamzah, 2020; Salovey & Mayer, 1990), adult intelligence (Wechsler, 1958), so on and so forth. Temporal intelligence, as a relatively new dimension, concentrates on the association between persons' behaviour, intellect, and influence related to time concerning themselves and other people (Clemens & Darlyrmp, 2005).

As evident from the definition of temporal intelligence, it can prove to be a vital ability in EFL instructors, as time is considered as a priceless commodity in the process of teaching. Classroom management has much to do with time, which is a matter of interest to language instructors. Scrivener (2012) defined classroom management as the way instructors govern learners' learning by arranging and regulating what occurs in a classroom. This subject is complicated and involves numerous constituents from handling classroom amenities, cooperating with learners, creating and sustaining suitable behavior and structuring the lesson. Aforementioned constituents require cognizance of how time is being consumed as the instructors are supposed to execute a syllabus in a stipulated amount of time. Moreover, they regulate each and every minute of the class. Therefore, instructors are entitled to perform one of the most time-considerate duties.

In view of the aforementioned discussion, it can be concluded that little is known regarding the relationship between a relatively novel variable (i.e., temporal intelligence) and teacher effectiveness in EFL context generally and Saudi EFL context particularly. Also, Naji Meidani et al. (2020) recommended that future researchers should consider conducting research on the relationship between language teachers' temporal intelligence and their competency. Thus, the current research aims to determine the relationship between temporal intelligence and teacher effectiveness among Saudi EFL teachers.

Literature Review

Teacher Effectiveness

Nielsen (2014) maintains that effective teachers play a vital role in students' learning. Furthermore, he affirmed that an effective teacher always employs multiple practices in the classroom that cultivate academic, social, and emotional development among the learners. Additionally, Habib (2017) while reviewing the past studies pertinent to teacher effectiveness underlines that the fate of any country could be shaped by their teachers as they are capable of influencing their students to a considerable extent. In context of Kingdom of Saudi Arabia (KSA), special attention is being given by the government to improve the quality of education (Rehman & Alhaisoni, 2013). Recently, the government of KSA has instigated a plan named 'Saudi Vision of 2030', which aims at improving the standard of education generally and English language teaching particularly (Al-Zahrani & Rajab, 2017). Alnahdi (2014) confirmed that Saudi Ministry of Education is concerned about Saudi teachers' performance and has initiated to prepare teacher's evaluation tools to assess their teaching effectiveness. In spite of the crucial role of teacher effectiveness in students' achievements, there is a lack of research regarding the teacher effectiveness variable in Saudi EFL context. Javid (2016) conducted a research in Saudi context to determine the effect of teaching effectiveness of both native and non-native English teachers. Findings indicated that both kinds of teachers have their own strengths. Therefore, there is a need to conduct more studies pertinent to teacher effectiveness in Saudi context.

From global perspective, the review of the previous literature revealed that several variables have been tested with teacher effectiveness including emotional intelligence (Singh & Jha, 2012; Bala, 2017), grit (Duckworth et al., 2009) teacher personality (Kim et al., 2019), leadership styles (Sirisookslip et al., 2015), self-efficacy (Klassen & Tze, 2014), student teaching experience (Goldhaber et al., 2017), cognitive abilities (Bardach & Klassen, 2020), professional development program (Tournaki et al., 2011). However, limited research exists regarding the relationship between time-related variables and teacher effectiveness generally and temporal intelligence and teacher effectiveness particularly.

The next section alludes to the review of literature related to temporal intelligence.

Temporal Intelligence

The concept of temporal intelligence was primarily coined by Clemens and Darlyrmpole (2005) to portray the significance of time in the domain of leadership, especially its role in making a judgement and influencing others. It denotes leader's behaviours and cognitions pertinent to time with reference to oneself and other people that one is supposed to lead (Doyle & Francis-Smythe, 2009). Previously, the concept of 'Time Personality' was introduced by Francis-Smythe and Robertson (1999), which is related to individualistic differences concerning time. The data collection instruments that they had developed consisted of five dimensions including impatience, leisure time awareness, planning, punctuality, and polychronicity. They deliberated their study's results in the context of the role time personality played in moderating the association between organizational structures and work demands. The individualistic difference aspect regarding time personality denotes self-oriented notions, behaviours and attitudes concerning time (Francis-Smythe & Robertson, 1999), while follower-oriented notions assess those that are related to one's followers (Doyle & Francis-Smythe, 2011).

As stated above, Francis-Smythe and Robertson (1999) suggested that the self-oriented temporal practices are equal to the concept of time personality. According to them, this is an individualistic difference construct involving five elements containing impatience, leisure time awareness, planning, punctuality, and polychronicity. Regarding the follower-oriented temporal practices, Doyle and Francis-Smythe (2008) designed a framework and offered following 13 time-related dimensions: temporal perspective interaction, timelessness, quality vs. speed, quality and speed, breaks, pace, autonomy, deadlines, time buffers, time boundaries between work and non-work, decisive timing, time allocation, and coordination.

On the basis of aforementioned self-oriented and follower-oriented references, an instrument named Temporal Intelligence Questionnaire (TiQ) was developed by Doyle and Francis-Smythe (2008) to collect data related to leader's behaviours and cognitions pertinent to time with reference to oneself

and other people that one is supposed to lead. Afterwards, Naji Meidani et al. (2020) moulded TiQ into language teaching context based on the reason that teachers are also administrators or leaders in their classrooms. In EFL settings, temporal intelligence has been tested with few variables. For example, Naji Meidani and Pishghadam (2019) conducted a study on 520 Iranian EFL learners to determine the association between temporal intelligence and self-efficacy. Findings indicated a significant and positive relationship temporal intelligence and self-efficacy. Moreover, Naji Meidani et al. (2020) determined the relationship between teachers' temporal intelligence and teacher burnout. Data was collected from 210 Iranian EFL teachers. Results indicated a positive and significant association between temporal intelligence and teacher burnout.

Methods

Research Design

In order to achieve the objective, the current research employed a quantitative research paradigm. Moreover, a correlational and cross-sectional research design was employed to attain the objective of this research. Creswell (2015) affirmed that correlational design is the one in which connection among variables is determined by using statistical procedures. Moreover, he affirmed that cross-sectional design involves the data collection at only one point of time.

Sample

The data were collected from 110 Saudi EFL instructors and 110 Saudi EFL students from 8 universities in the central region of Kingdom of Saudi Arabia. Of 110 instructors, 83 were male and 27 were female. Regarding their academic qualification, 21 instructors had a PhD degree, while 89 had a Master's degree in English language or linguistics. In order to select the sample of instructors, a purposive sampling technique was employed. The rationale of employing a purposive sampling was to select only Saudi teachers and thus all the other nationalities were not selected. Moreover, with the aim of selecting the Saudi EFL students, a purposive sampling technique was used. Only those Saudi EFL learners were selected purposefully who were the students of the instructors involved in the current study.

Data Collection Instruments

This section alludes to the data collection instruments related to temporal intelligence and teacher effectiveness. The descriptive statistics, reliability value and factor loading for both the instruments are depicted in Table 1, Appendix A, and Appendix B.

Language Teachers' Temporal Intelligence Scale

To measure temporal intelligence of the Saudi EFL teachers, this scale was adopted from Naji Meidani et al. (2020). It consists of 15 items and each item has four options ranging from 1 to 4 (from lowermost to uppermost degree of temporal intelligence). Out of 15 items, 13 were related to follower-oriented temporal practices, while two were related to self-oriented temporal practices. The sample item of the scale is as follows: 'As a teacher, I go to class on time'.

Teacher Effectiveness Scale in Higher Education

To measure teacher effectiveness of the Saudi EFL teachers, this scale was adopted from Calaguas (2013). It comprises 67 items in total. Moreover, it has four dimensions including teaching-related behavior (45 items), subject matter expertise (10 items), relational expertise (7 items), and personality (5 items). The sample item of the scale is as follows: 'The teacher shows enthusiasm in the teaching of lessons'. Previous studies revealed that this scale is reliable to use with high Cronbach's alpha value of 0.97 (Marulcu & Bozkuş, 2017).

Research Procedures

The process of data collection lasted for almost three months (i.e., January, 2020 to March, 2020). First of all, we contacted the heads of English departments of the all the eight universities of the central region in KSA via email to get their permission regarding data collection from their faculty and students. Upon getting approval, researcher visited each of the eight universities to collect the data. Upon reaching each university, the researcher spent some time with the respondents (i.e., teachers and students) to build rapport. Before administering the questionnaires, the respondents were told about the objectives of the study and they were assured that their identities would be kept incognito. Afterwards, *language teachers'*

temporal intelligence scale was handed over to the Saudi EFL instructors and *teacher effectiveness scale in higher education* was handed over to the students of the instructors that are involved in the current study. While administering the questionnaires, the researcher ensured his presence to deal with any queries related to questionnaires. After receiving the questionnaires, the researcher had a bird's eye view of the filled questionnaires to check if there was any missing item. Eventually, the collected data was proceeded for data analysis.

Data Analysis

Initially, the collected data was gone through an evaluation regarding outliers and missing values. Appendix A confirms that the current study's collected data set has no outliers and missing values. Subsequently, normality of the data was scrutinized by employing the Skewness and Kurtosis benchmark. According to the benchmark, Skewness' value should be lower than the predetermined value of 2 and Kurtosis' value should be lower than the predetermined value of 7 (Curran et al., 1996). It's

evident from Appendix A that normality is achieved, and data can be advanced to the next steps of analysis.

Main analysis consists of two components including measurement model and structural model.

Measurement Model

Measurement model was evaluated to determine the reliability and validity. With the intention of testing the model, SmartPLS 3.0 was used. Therefore, composite reliability, discriminant validity, average variance extracted (AVE), convergent validity, and factor loading were assessed. Hair et al. (2010) confirmed that the values of factor loading, and AVE ought to be higher than the suggested criteria of 0.5 (see Appenx B and Figure 1). In addition, the prescribed criterion of composite reliability was proposed by Fornell and Larcker (1981), i.e., it should be above than the value of 0.7 (see Table 1). Furthermore, Figure 1 depicts that the value of R^2 is 0.529. In simple terms, it indicates that temporal intelligence is responsible for 52% of the variance in teacher effectiveness.

Table 1: *Reliability and convergent validity*

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Teacher Effectiveness	0.988	0.991	0.989	0.59
Temporal Intelligence	0.98	0.98	0.982	0.78

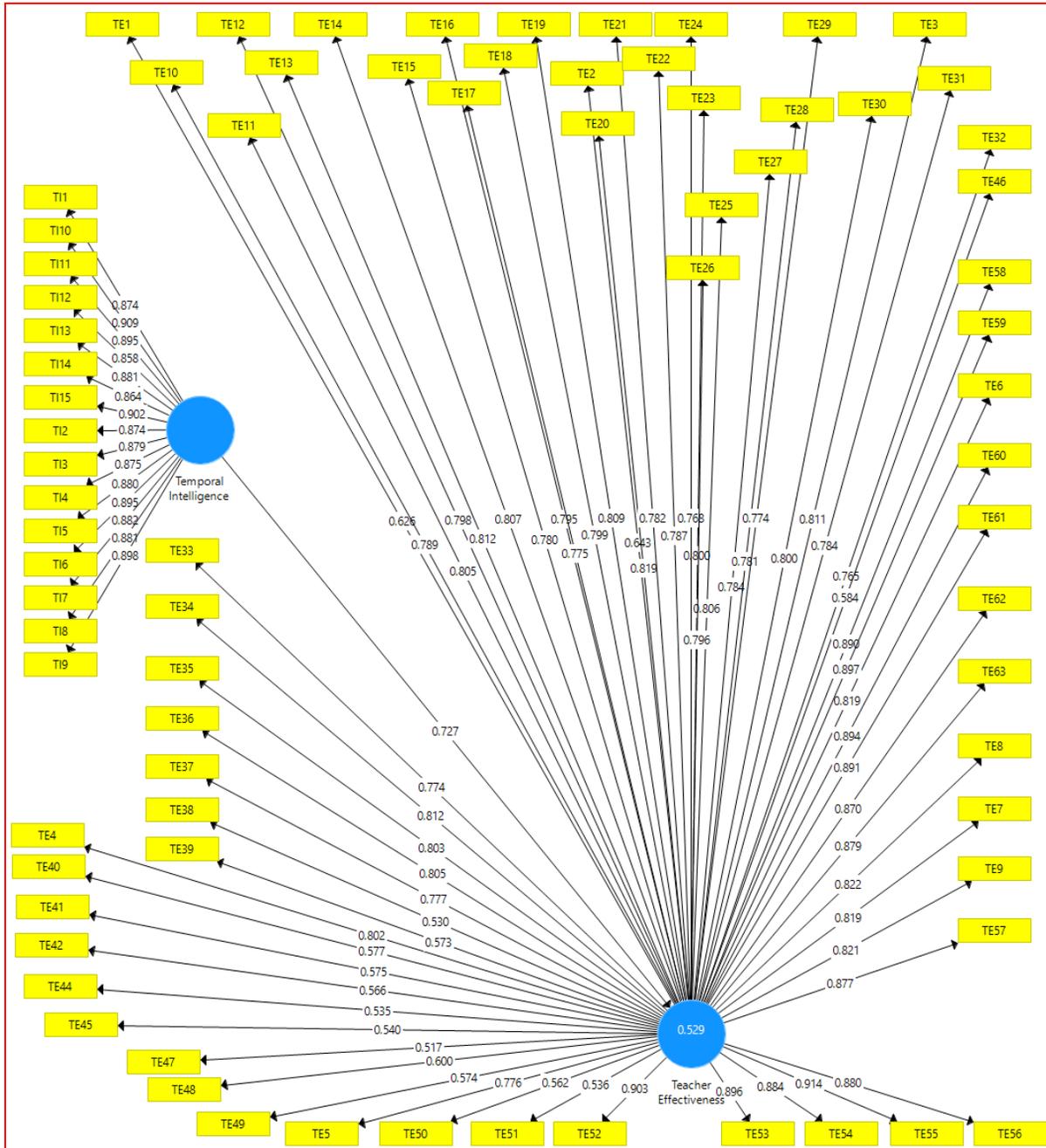


Figure 1. Measurement model

Appendix B and Table 1 depict that all the values of CR, AVE and factor loading are in the recommended range. Furthermore, model's external consistency

was authenticated through discriminant validity as shown in Table 2 by utilising AVE square root.

Table 2: AVE square root

	Teacher Effectiveness	Temporal Intelligence
Teacher Effectiveness	0.768	
Temporal Intelligence	0.727	0.883

Structural Model

With the aim of determining the connection between temporal intelligence and teacher effectiveness, structural model was gauged. Figure 2 and Table 3 show that there is a positive and significant relationship between temporal intelligence and teacher effectiveness (t-value = 20.039; β -value = 0.727).

Table 3. Direct effect results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Temporal Intelligence -> Teacher Effectiveness	0.727	0.728	0.036	20.039	0

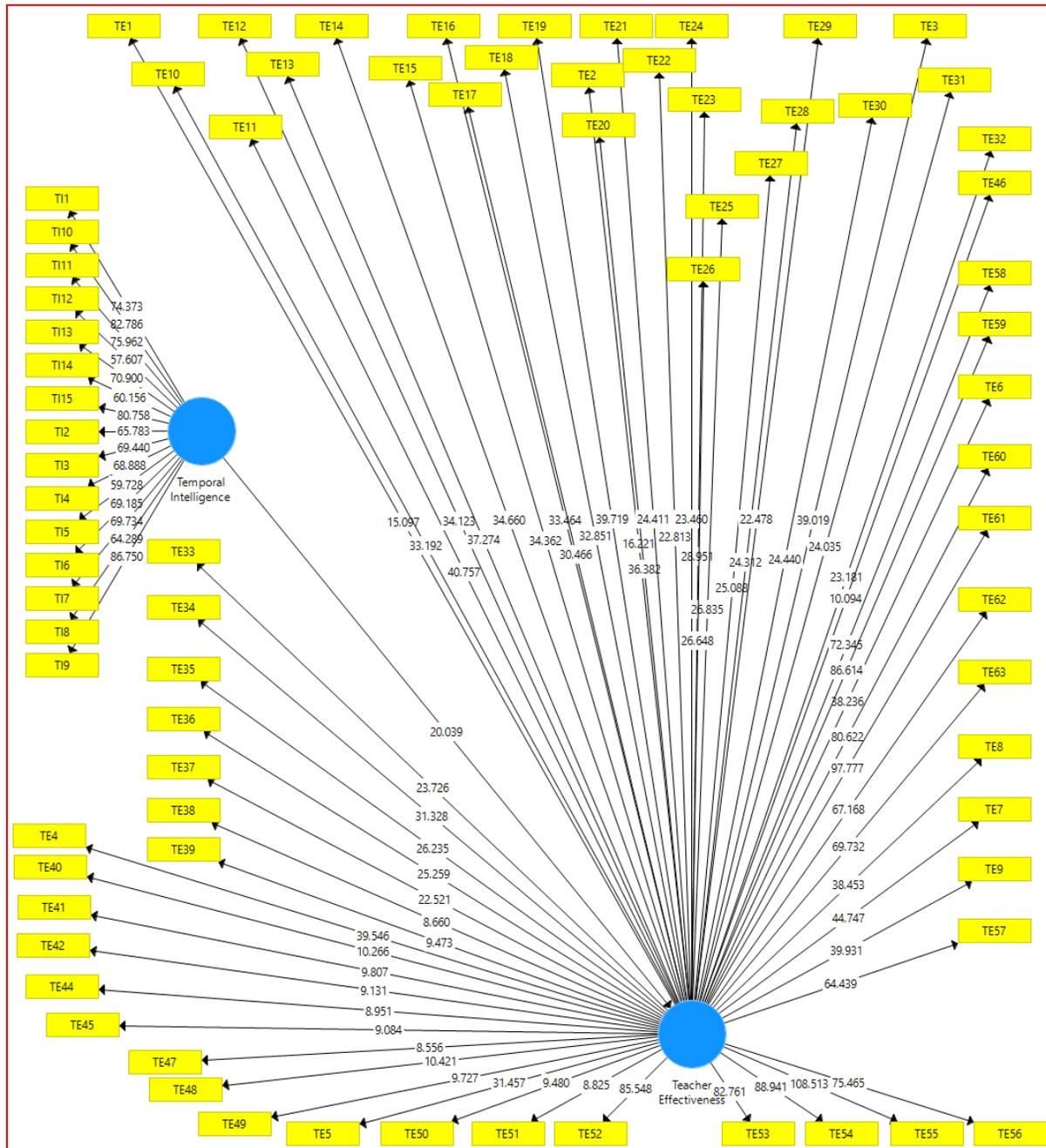


Figure 2. Structural Model

Findings

Findings indicated that there is a significant and positive relationship between temporal intelligence and teacher effectiveness among Saudi EFL teachers. The next discussion discusses the findings in the light of previous literature.

Discussion and Conclusion

The current study aimed at identifying the relationship between temporal intelligence and teacher effectiveness among Saudi EFL teachers. The findings of the study indicated that temporal intelligence showed a positive and significant relationship with teacher effectiveness. In simple terms, findings designated that teacher effectiveness

of Saudi EFL teachers improved with the increase in the level of temporal intelligence. Temporal intelligence is relatively a novel variable which has been employed in the previous literature to refer to administrator and managers (Clemens & Darlymple, 2005; Doyle & Francis-Smythe, 2009). Naji Meidani et al. (2020) affirmed that teachers are also administrators of their students in a classroom setting, thus, temporal intelligence can be used in teaching context as well. More recently, in EFL context, few studies have been conducted to determine the relationship between temporal intelligence and numerous variables (Naji Meidani & Pishghadam, 2019; Naji Meidani et al., 2020). For instance, Naji Meidani and Pishghadam (2019) conducted a study on Iranian EFL students to determine the association of temporal intelligence with self-regulation and self-efficacy beliefs. Findings indicated that temporal intelligence positively and significantly predicted Iranian EFL students' self-regulation and self-efficacy beliefs. Moreover, in EFL teaching context, Naji Meidani et al. (2020) conducted a study on Iranian EFL teachers and found a negative and significant connection between temporal intelligence and teachers' burnout. Also, Naji Meidani et al. (2020) recommended that future researchers should conduct studies involving the association between temporal intelligence and numerous variables including different competencies of teachers in different contexts. Therefore, the current study added valuable findings into the body of literature by conducting research on the connection between temporal intelligence and teacher effectiveness among Saudi EFL teachers.

Previous literature indicated that Saudi EFL teachers lack effectiveness regarding teaching English language (Al-Zahrani & Rajab, 2017; Shah et al., 2013). Several researchers probed into the reasons related to their deficiency of effectiveness including lack of qualification (Javid et al., 2012), dearth of instructors' training (Alrabai, 2016), lack of technology usage in the classroom (Alrabai, 2016), teacher behavior (Alrabai, 2016), unsuitable teaching method (Alrabai, 2016) etc. However, they did not consider the role of time-related variables in teacher effectiveness. Therefore, the findings of the current study contributed significantly to offer a novel predictor of teacher effectiveness, i.e., temporal intelligence. Previous literature found that due to poor time management, the teaching performance was

adversely affected (Özköç et al., 2008; Tok, 2010). Thus, this study's findings could prove to be a steppingstone towards knowing more about the relationship between time-related variables and teacher's competencies and effectiveness.

Despite the study's contributions to the body of literature, it has certain limitations. Firstly, the current study employed a quantitative research approach. Future researchers may determine the relationship between temporal intelligence and teacher effectiveness by employing a qualitative or mixed-methods approach to get a more robust perspective. Secondly, current study only determined the role of temporal intelligence in teacher effectiveness among Saudi EFL teachers. Therefore, it leaves a room for future research in other contexts and settings, e.g., ESL or native English-speaking context. Thirdly, as the participants of this study comprised university level English language teachers, the findings may not be generalizable to the teachers of school or college level. Therefore, future researchers may conduct studies on the same variables by collecting data from school or college level teachers.

As the previous literature indicated that the performance of Saudi EFL teachers is below the mark; therefore, present study's findings could be beneficial to teachers as well as policymakers. More particularly, teachers could enhance their teaching effectiveness by making themselves cognizant of time-related practices while teaching. In addition, policymakers could make a policy regarding conducting workshops pertinent to time-related variables (i.e., time management, temporal intelligence etc.) to improve the effectiveness of language teachers. It is worth mentioning that teacher and policymakers of other Gulf countries could also take note of the study's findings to improve the teaching effectiveness of the teachers as Fareh (2010) affirmed that almost all of the EFL teachers suffer from the same problems in the Arab World.

References

- Alghorbany, A., & Hamzah, H. (2020). The interplay between emotional intelligence, oral communication skills and second language speaking anxiety: A structural equation modeling approach. *3L: Language, Linguistics, Literature®*, 26(1), 44-59. <http://doi.org/10.17576/3L-2020-2601-04>

- Alnahdi, G. H. (2014). Educational change in Saudi Arabia. *Journal of International Education Research (JIER)*, 10(1), 1-6. <https://doi.org/10.19030/jier.v10i1.8342>
- Alrabai, F. (2016). Factors underlying low achievement of Saudi EFL learners. *International Journal of English Linguistics*, 6(3), 21-37. <http://dx.doi.org/10.5539/ijel.v6n3p21>
- Al-Zahrani, N. O. A., & Rajab, H. (2017). Attitudes and perceptions of Saudi EFL teachers in implementing Kingdom of Saudi Arabia's Vision 2030. *International Journal of English Language Education*, 5(1), 83-99. <http://dx.doi.org/10.5296/ijele.v5i1.10733>
- Anderson, L. W. (2004). *Increasing teacher effectiveness* (2nd ed.). UNESCO: International Institute for Planning.
- Bala, R. (2017). Teacher effectiveness of secondary school teachers in relation to their emotional intelligence. *The International Journal of Indian Psychology*, 4(4), 72-78.
- Bardach, L., & Klassen, R. M. (2020). Smart teachers, successful students? A systematic review of the literature on teachers' cognitive abilities and teacher effectiveness. *Educational Research Review*, 100312. <https://doi.org/10.1016/j.edurev.2020.100312>
- Calaguas, G. M. (2013). Teacher effectiveness scale in higher education: Development and psychometric properties. *International Journal of Research Studies in Education*, 2(2), 3-20. Doi: 10.5861/ijrse.2012.108
- Clemens, J. K., & Dalrymple, S. (2005). *Time mastery: How temporal intelligence will make you a stronger, more effective leader*. New York: Amacom Books.
- Creswell, J.W. (2015). *A concise introduction to mixed methods research*. Thousand Oaks, CA: Sage.
- Curran, P. J., West, S. G., & Finch, J. F. (1996). The robustness of test statistics to nonnormality and specification error in confirmatory factor analysis. *Psychological Methods*, 1(1), 16-29.
- Doyle, A., & Francis-Smythe, J. (2008). *Development of the temporal intelligence questionnaire*. Paper presented at the British Academy of Management Annual Conference, Harrogate.
- Doyle, A. & Francis-Smythe, J. A. (2009). *Temporal intelligence and time management*. Paper presented in 14th Congress of the European Association of Work and Organizational Psychology, Spain.
- Doyle, A., & J. Francis-Smythe. (2011). *The Nature of Temporal Intelligence in Leadership*. Paper presented at the 15th European Congress of Work and Organizational Psychology, Netherlands.
- Duckworth, A. L., Quinn, P. D., & Seligman, M. E. (2009). Positive predictors of teacher effectiveness. *The Journal of Positive Psychology*, 4(6), 540-547. <https://doi.org/10.1080/17439760903157232>
- Earley, P. C., & Mosakowski, E. (2004). Cultural intelligence. *Harvard Business Review*, 82(10), 139-146.
- Eberhart, R. C., Shi, Y., & Kennedy, J. (2001). *Swarm intelligence*. Elsevier.
- Fareh, S. (2010). Challenges of teaching English in the Arab world: Why can't EFL programs deliver as expected?. *Procedia-Social and Behavioral Sciences*, 2(2), 3600-3604.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>
- Francis-Smythe, J., & Robertson, I. (1999). Time-related individual differences. *Time & Society*, 8(2-3), 273-292. <https://doi.org/10.1177/0961463X99008002004>
- Gardner, H. (1993). *Frames of mind: The theory of multiple intelligences*. London, UK: Fontana. (original work published 1983, New York, NY: Bantam Books)

- Goldhaber, D., Krieg, J. M., & Theobald, R. (2017). Does the match matter? Exploring whether student teaching experiences affect teacher effectiveness. *American Educational Research Journal*, 54(2), 325-359. <https://doi.org/10.3102/0002831217690516>
- Habib, H. (2017). A study of teacher effectiveness and its importance. *National Journal of Multidisciplinary Research and Development*, 2(3), 530-532.
- Hair Jr., J. F., Black, W. C., Babin, B. J., Andersen, R. E., & Tatham, R. L. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Hunt, B.C. (2009). *Teacher Effectiveness: A Review of the International Literature and its Relevance for Improving Education in Latin America* (Working Paper No. 43). Washington, DC: Partnership for Educational Revitalization in the America.
- Javid, C. Z. (2016). Teaching effectiveness of native and non-native EFL teachers as perceived by preparatory year students in Saudi context. *Language in India*, 16(1), 98-121.
- Javid, C.Z., Farooq, U., & Gulzar, M.A. (2012). Saudi English-major undergraduates and English teachers' perceptions regarding effective ELT in the KSA: A comparative study. *European Journal of Scientific Research*, 85(1), 55-70.
- Kihlstrom, J. F., & Cantor, N. (2000). *Social intelligence*. New York, NY: Cambridge University Press.
- Kim, L. E., Jörg, V., & Klassen, R. M. (2019). A meta-analysis of the effects of teacher personality on teacher effectiveness and burnout. *Educational Psychology Review*, 31(1), 163-195. <https://doi.org/10.1007/s10648-018-9458-2>
- Klassen, R. M., & Tze, V. M. (2014). Teachers' self-efficacy, personality, and teaching effectiveness: A meta-analysis. *Educational Research Review*, 12, 59-76. <https://doi.org/10.1016/j.edurev.2014.06.001>
- Liton, H. A. (2012). Developing EFL teaching and learning practices in Saudi colleges: A review. *International Journal of Instruction*, 5(2), 129-152.
- Marulcu, İ., & Bozkuş, K. (2017). Adaptation of the teacher effectiveness scale in higher education into Turkish language. *European Journal of Education Studies*, 3(10), 284-292. Doi: 10.5281/zenodo.1005306
- Naji Meidani, E., & Pishghadam, R. (2019). The role of temporal intelligence in language learners' self-regulation and self-efficacy. *Polish Psychological Bulletin*, 50(1), 71-82. Doi: 10.24425/ppb.2019.126021
- Naji Meidani, E., Pishghadam, R., Ghonsooly, B., & Hosseini Fatemi, A. (2020). Constructing and validating a language teachers' temporal intelligence scale and examining its relationship with teacher burnout. *Innovation in Language Learning and Teaching*, 14(1), 51-66. <https://doi.org/10.1080/17501229.2018.1488854>
- Nielsen, L. D. (2014). Teacher evaluation: Archiving teaching effectiveness. *Music Educators Journal*, 101(1), 63-69. <https://doi.org/10.1177/0027432114536736>
- Özkönlü, R., Bilgin, A., & Kartal, H. (2008). Evaluation of teaching practice course according to opinions of teacher candidates. *Elementary Education Online*, 7, 726-737.
- Rao, D. B., & Kumar, D. N. (2004). *School teacher effectiveness*. New Delhi, India: Discovery Publishing House.
- Rehman, M. and Alhaisoni, E. (2013). Teaching English in Saudi Arabia: Prospects and Challenges, *Academic Research International* 4(1), 112-118.
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9(3), 185-211. <https://doi.org/10.2190/DUGG-P24E-52WK-6CDG>
- Scrivener, J. (2012). *Classroom management techniques*. Cambridge: Cambridge University Press.
- Shah, S. R., Hussain, M. A., & Nasseef, O. A. (2013). Factors impacting EFL teaching: An

exploratory study in the Saudi Arabian context. *Arab World English Journal*, 4(3), 104-123.

Shehzad, M.W., Lashari, S.A., Alghorbany, A., Lashari, T.A. (2019). Self-efficacy sources and reading comprehension: The mediating role of reading self-efficacy beliefs. *3L: Language, Linguistics, Literature*, 25(3), 1-16.

Singh, I., & Jha, A. (2012). Teacher effectiveness in relation to emotional intelligence among medical and engineering faculty members. *Europe's Journal of Psychology*, 8(4), 667-685. <https://doi.org/10.5964/ejop.v8i4.483>

Sirisookslip, S., Ariratana, W., & Ngang, T. K. (2015). The impact of leadership styles of school administrators on affecting teacher effectiveness. *Procedia-Social and Behavioral Sciences*, 186, 1031-1037. <https://doi.org/10.1016/j.sbspro.2015.04.022>

Tok, Ş. (2010). The problems of teacher candidate's about teaching skills during teaching practice. *Procedia-Social and Behavioral Sciences*, 2(2), 4142-4146. <https://doi.org/10.1016/j.sbspro.2010.03.654>

Tournaki, E., Lyublinskaya, I., & Carolan, B. (2011). An ongoing professional development program and its impact on teacher effectiveness. *The Teacher Educator*, 46(4), 299-315. <https://doi.org/10.1080/08878730.2011.604711>

Wechsler, D. (1958). *The measurement and appraisal of adult intelligence*. Baltimore: Williams & Wilkins.

APPENDIX A

Data statistics

No.	Missing	Mean	Median	Min	Max	Standard Deviation	Excess Kurtosis	Skewness	
TI1	1	0	3.284	3	1	7	1.501	-0.354	0.101
TI2	2	0	3.279	3	1	7	1.764	-0.521	0.421
TI3	3	0	3.559	3	1	7	1.866	-0.787	0.286
TI4	4	0	3.515	3	1	7	1.914	-0.826	0.371
TI5	5	0	3.559	3	1	7	1.707	-0.447	0.286
TI6	6	0	3.515	4	1	7	1.792	-0.661	0.223
TI7	7	0	3.525	4	1	7	1.838	-0.866	0.159
TI8	8	0	3.706	4	1	7	1.837	-0.741	0.163
TI9	9	0	3.711	4	1	7	1.85	-0.747	0.29
TI10	10	0	3.686	4	1	7	1.904	-0.737	0.341
TI11	11	0	3.583	3	1	7	1.87	-0.702	0.367
TI12	12	0	3.569	3	1	7	1.834	-0.612	0.336
TI13	13	0	3.613	3	1	7	1.853	-0.707	0.319
TI14	14	0	3.471	3	1	7	1.73	-0.411	0.405
TI15	15	0	3.564	4	1	7	1.876	-0.858	0.187

TE1	16	0	3.48	4	1	7	1.781	-0.616	0.263
TE2	17	0	3.667	4	1	7	1.742	-0.555	0.258
TE3	18	0	3.098	3	1	7	1.511	-0.188	0.587
TE4	19	0	3.23	3	1	7	1.534	0.319	0.838
TE5	20	0	3.265	3	1	7	1.471	0.692	0.911
TE6	21	0	3.225	3	1	7	1.465	0.396	0.763
TE7	22	0	3.191	3	1	7	1.392	0.513	0.674
TE8	23	0	3.279	3	1	7	1.516	0.251	0.699
TE9	24	0	3.162	3	1	7	1.501	0.378	0.825
TE10	25	0	3.059	3	1	7	1.437	-0.227	0.435
TE11	26	0	3.255	3	1	7	1.366	0.461	0.657
TE12	27	0	3.172	3	1	7	1.464	0.088	0.606
TE13	28	0	3.137	3	1	7	1.521	0.081	0.658
TE14	29	0	3.26	3	1	7	1.42	-0.173	0.536
TE15	30	0	3.206	3	1	7	1.371	0.247	0.578
TE16	31	0	3.083	3	1	7	1.357	-0.218	0.512
TE17	32	0	3.191	3	1	7	1.316	0.324	0.603
TE18	33	0	3.172	3	1	7	1.443	-0.101	0.682
TE19	34	0	3.245	3	1	7	1.421	0.172	0.686
TE20	35	0	3.245	3	1	7	1.354	0.214	0.669
TE21	36	0	3.289	4	1	7	1.636	-0.748	0.176
TE22	37	0	3.255	4	1	7	1.707	-0.763	0.299
TE23	38	0	3.328	3	1	7	1.89	-0.846	0.37
TE24	39	0	3.314	3	1	7	2.01	-1.08	0.414
TE25	40	0	3.196	3	1	7	2.044	-0.943	0.513
TE26	41	0	3.206	3	1	7	1.952	-0.882	0.505
TE27	42	0	3.328	3	1	7	1.702	-0.662	0.414
TE28	43	0	3.289	3	1	7	1.912	-0.879	0.395
TE29	44	0	3.289	3	1	7	1.876	-0.907	0.418
TE30	45	0	3.324	3	1	7	1.9	-0.867	0.383
TE31	46	0	3.26	3	1	7	2.019	-1.07	0.419
TE32	47	0	3.353	3	1	7	2.037	-1.043	0.396
TE33	48	0	3.255	3	1	7	1.895	-1	0.39
TE34	49	0	3.324	3	1	7	1.877	-0.819	0.406

TE35	50	0	3.108	3	1	7	1.847	-0.842	0.401
TE36	51	0	3.304	3	1	7	2.004	-1.052	0.338
TE37	52	0	3.221	3	1	7	1.867	-1.003	0.322
TE38	53	0	2.975	2	1	7	2.219	-0.77	0.836
TE39	54	0	2.853	2	1	7	2.244	-0.743	0.872
TE40	55	0	3	2	1	7	2.185	-0.767	0.812
TE41	56	0	2.922	2	1	7	2.12	-0.612	0.856
TE42	57	0	2.902	2	1	7	2.309	-0.833	0.873
TE43	58	0	2.819	2	1	7	2.129	-0.42	0.995
TE44	59	0	2.912	2	1	7	1.951	-0.392	0.851
TE45	60	0	2.799	2	1	7	1.941	-0.183	0.947
TE46	61	0	2.877	2	1	7	2.189	-0.641	0.897
TE47	62	0	2.922	2	1	7	2.08	-0.56	0.856
TE48	63	0	2.951	2	1	7	2.218	-0.746	0.839
TE49	64	0	2.868	2	1	7	2.378	-0.89	0.875
TE50	65	0	2.775	2	1	7	2.088	-0.341	0.999
TE51	66	0	2.966	2	1	7	2.202	-0.685	0.919
TE52	67	0	3.407	4	1	6	1.497	-1.069	0.119
TE53	68	0	3.319	3	1	6	1.684	-1.406	0.029
TE54	69	0	3.358	3	1	6	1.554	-1.292	0.019
TE55	70	0	3.328	3	1	6	1.567	-1.389	0.067
TE56	71	0	3.299	3	1	6	1.607	-1.495	-0.104
TE57	72	0	3.373	3	1	6	1.562	-1.31	-0.107
TE58	73	0	3.324	3	1	6	1.579	-1.321	0.17
TE59	74	0	3.343	3	1	6	1.572	-1.361	-0.093
TE60	75	0	3.324	3	1	6	1.582	-1.385	0.092
TE61	76	0	3.368	3	1	6	1.577	-1.345	-0.056
TE62	77	0	3.275	3	1	6	1.649	-1.434	-0.036
TE63	78	0	3.426	3	1	6	1.587	-1.378	-0.146

APPENDIX B**Factor loadings**

Teacher Effectiveness		Temporal Intelligence	
TE1	0.626		

TE10	0.789
TE11	0.805
TE12	0.798
TE13	0.812
TE14	0.807
TE15	0.780
TE16	0.795
TE17	0.775
TE18	0.799
TE19	0.809
TE2	0.643
TE20	0.819
TE21	0.782
TE22	0.787
TE23	0.800
TE24	0.768
TE25	0.806
TE26	0.796
TE27	0.784
TE28	0.781
TE29	0.774
TE3	0.811
TE30	0.800
TE31	0.784
TE32	0.765
TE33	0.774
TE34	0.812
TE35	0.803
TE36	0.805
TE37	0.777
TE38	0.530
TE39	0.573
TE4	0.802
TE40	0.577

TE41	0.575
TE42	0.566
TE44	0.535
TE45	0.540
TE46	0.584
TE47	0.517
TE48	0.600
TE49	0.574
TE5	0.776
TE50	0.562
TE51	0.536
TE52	0.903
TE53	0.896
TE54	0.884
TE55	0.914
TE56	0.880
TE57	0.877
TE58	0.890
TE59	0.897
TE6	0.819
TE60	0.894
TE61	0.891
TE62	0.870
TE63	0.879
TE7	0.819
TE8	0.822
TE9	0.821
TI1	0.874
TI10	0.909
TI11	0.895
TI12	0.858
TI13	0.881
TI14	0.864
TI15	0.902

TI2	0.874
TI3	0.879
TI4	0.875
TI5	0.880
TI6	0.895
TI7	0.882
TI8	0.881
TI9	0.898
