THE IMPACT OF COGNITIVE STYLES ON ACADEMIC SUCCESS: AN ANALYSIS OF KURDISH EFL LEARNERS' ACADEMIC ACHIEVEMENT

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ABSTRACT

The purpose of this research is to determine how field-independent and field-dependent cognitive styles relate to one another, as defined by Herman Witkin's Field Dependence-Field Independence theory, and the academic progression of Kurdish EFL learners at the College of Languages, University of Duhok. Utilizing the Group Embedded Figure Test (GEFT) as the primary research instrument, insights from a cohort of 49 participants across sophomore, junior, and senior years were extracted. Findings reveal a significant correlation between cognitive styles and the academic progression of the learners.

There's also a marked gender difference, with females predominantly showcasing field-independent tendencies and males leaning towards field dependence.

These findings emphasize the critical significance of educators' ability to acknowledge and tailor their instructional approaches to accommodate diverse cognitive orientations, which can significantly influence learning strategies, academic outcomes, and the overall educational experience.

KEYWORDS: Cognitive Styles, Field Dependence-Field Independence, Kurdish EFL Learners, Academic Achievement, Gender Differences, Group Embedded Figure Test (GEFT), Pedagogical Approaches

INTRODUCTION

Learning a language, especially among Kurdish EFL students, is a multifaceted process where cognitive styles play a pivotal role. Every student navigates their learning journey with varying strategies and tactics. This difference in learning tactics often stems from intrinsic styles, preferences, or even external motivations, such as competition with peers or gaining appreciation from teachers. Undoubtedly, the overarching aim remains academic success.

Notably, certain students excel over others. The secret to their success is not sheer luck but the adoption of learning strategies that amplify their confidence, motivation, and self-reliance. According to the works of Niroomand and Rostampour (2014), the natural cognitive style of a student is a major factor in determining how they will learn and how their educational experience will unfold.

However, what is cognitive style? Witkin (1973) terms it as the consistent way through which individuals perceive and respond to information. Building on this, Messick (1984) adds that it is about how one identifies environmental cues and organizes data. Pithers (2002) elucidates that it is about the stable ways in which one perceives, remembers, and problem-solves. Numerous studies highlight the undeniable impact of cognitive style on academic performance across various tasks and stages.

Within the realm of cognitive styles, one particular theory stands out – the Field Dependence-Field Independence cognitive style theory by Herman Witkin. At its core, this theory focuses on an individual's ability to identify primary elements amidst a plethora of distracting elements. Field dependent learners lean more towards group studies, structured methodologies, and definitive goals. They thrive on interactions, be it with peers or teachers. This interaction often molds their learning journey (Rayner and Riding, 1997).

On the contrary, field-independent learners have a different approach. They excel in identifying individual elements from a background, relying less on external cues. These learners have analytical prowess, prefer working independently, and are driven intrinsically towards achieving tasks.

Furthermore, research underscores the gender-specific inclinations towards these cognitive styles. Studies by Witkin suggest a

proclivity of females towards field-dependent styles and males towards the more analytical, field-independent styles.

Nevertheless, it is crucial to note that while field independence might suggest better cognitive restructuring capabilities, field dependence aligns more with superior interpersonal skills (Hansen and Stansfield, 1981).

The Problem Statement

In the field of education, students show discrete cognitive styles that have a substantial impact on their learning strategies, preferences, and, eventually, academic performance. The distinction between learners who are field dependent and those field independent is a well-known categorization of cognitive styles. Field independent learners prefer to analyze details separately and they frequently demonstrate a more analytical and independent approach to learning, whereas field dependent learners often rely on external cues and context in their quest for a comprehensive understanding of information.

Though cognitive styles have been shown to affect learning outcomes, little is known about the precise differences between field dependent and field independent learners and how these differences affect academic performance. Teachers' ability to modify lessons and support systems to meet the different needs of students with different cognitive styles is hampered in the absence of a detailed examination or investigation aimed at understanding the specific differences between field-dependent and field-independent learners and how these differences impact academic performance.

Insufficient research has been done on the pedagogical implications of field dependent and field independent cognitive styles. It is imperative that educators develop a deep comprehension of the complex relationship that exists between these cognitive styles and curriculum design. With this knowledge, they will be able to develop focused strategies that meet the various needs of their students.

Aim of the Study

The purpose of this study is to examine the cognitive styles of field dependent and field independent learners and to compare the methods and results of their learning. Individuals' learning preferences and strategies are heavily shaped by their cognitive styles, which, in turn, affect how information is organized and processed. Understanding these differences can significantly impact teaching methods, curriculum development, and instructional design.

The Significance of the Study

This study is important because it examines the connection between Kurdish EFL learners' academic success and cognitive styles, specifically field-independent and field-dependent styles. Using the Group Embedded Figure Test (GEFT) and Herman Witkin's Field Dependence-Field Independence theory, the study finds a strong relationship between academic progress and cognitive styles. Notably, gender differences in cognitive tendencies highlight the necessity of specialized teaching strategies. The results of this research highlight the critical role teachers play in identifying and accommodating a range of cognitive orientations, impacting academic performance and learning methods, and improving the quality of education Kurdish EFL students receive at the College of Languages, University of Duhok.

Literature Review

The intersection of cognitive styles and academic success, especially within the domain of English as a Foreign Language (EFL), is both diverse and intricate. A tapestry of research underscores this relationship, thus weaving together varied perspectives, methodologies, and contexts.

Onyekuru (2015) provided a seminal study involving 158 secondary school students, establishing a compelling connection between field independence-dependence cognitive styles and several factors, most notably gender, career aspirations, and academic outcomes. Echoing this, **Nozari and Siamian (2015)**, using a sample of 305 high school students, delineated the favorable association between field independence and English reading comprehension.

The narrative of field-independent learners outperforming their field-dependent peers is a recurring theme, as posited by **Tinajero & Páramo (1998)**. This is further substantiated by **Samuel, Mercy, & Orluwene (2019)**, whose research investigated the influence of field dependent and field independent cognitive styles on 396 JSS3 students' academic achievement in English Language in Rivers State, Nigeria. They adopted Group Embedded Figure Test (GEFT) and a self-designed English language Achievement Test (ELAT) for data collection. They found that students who are field independent in their cognitive style

outperformed their field dependent counterparts in English Language. They also found that field independent male and field dependent outperformed their female counterparts in the test of the English Language. Based on the findings of their study, they recommended that teachers and school authorities should identify students' cognitive styles and to separate them into different classes so as to enhance appropriate teaching methods to enhance the academic achievement of the students.

Hansen and Stansfield (1983) in their research on "field dependence-independence as a variable in second language cloze test performance" tried to explore the influence of one student characteristic, field dependent-independent cognitive style, on second language test performance. The participants of their study were 293 college students in an introductory Spanish course at the University of Colorado. Students had a 16-week course that emphasized both linguistic and communicative competence throughout large group lectures, small group recitation classes, language laboratory sessions, and textbook-workbook exercises. The researchers used the Group Embedded Figures Test (GEFT) as an instrument for data collection to determine the degree of field dependence-independence of the participants. The results of this research showed that student FI to be related consistently in a positive albeit modest fashion to second language test performance. The correlation between student's field independence and cloze test performance was the most notable one. This suggests there may be a cognitive style bias operating in conjunction with cloze test performance. They found that field independent individuals do indeed fill in the blanks on a Cloze Test more easily than field dependent persons do.

A research entitled "The effects of field-dependent/field-independent cognitive styles and gender on second language speaking performance" conducted by **Soozandehfar and Souzandehfar (2011)** investigated the relationship between the field-dependence/independence cognitive styles and the speaking performance of Iranian EFL learners. They also examined the effects of gender and field-dependent and field-independent cognitive styles on the students' speaking performance. They selected 53 students (10 male and 43 female students) using the Oxford Placement Test. To measure the students' field-dependent and field-independent level the GEFT was implemented. The Pearson Product-Moment Correlation' results revealed a negatively insignificant correlation between the field-dependent and field-independent cognitive styles and the speaking scores. The findings of their study suggested that there may be no need for EFL teachers, advisers, test developers, and test users to consider test takers' cognitive styles and gender as sources of systematic variance in their speaking performance, and therefore, as sources of test bias.

The implications of cognitive styles extend beyond proficiency, shaping students' responsiveness to different learning methods. **Dwyer & Moore (1994)** examined effect of cognitive style on achievement in their study "Effect of color coding and test type (visual/ Verbal) on students identified as possessing different field dependence level". The participants (179) were classified as field dependent, field neutral, or field independent as a result of their performance on Group Embedded Figures Test (GEFT). The results of the study verified that field independent and field dependent learners differ in cognitive processes they use. Both field independence and field dependence concepts are important variables in the teaching/learning process. They found the field independent learners to be superior to field dependent learners on tests. The researchers concluded that cognitive styles had a considerable relationship with the academic achievement of the students.

Delving deeper, several scholars have accentuated nuances that further define this relationship:

- **Zhang & Sternberg (2005)** posited the indispensable role of accommodating cognitive styles in pedagogical approaches, emphasizing holistic achievement.
- Reflecting on the dynamics of language acquisition, **Alonso (2006)** explained that while field-independent learners excel in structured tasks like grammar; their field-dependent counterparts do much better in interactive environments.
- In the realm of digitization, **Kumar & Chand (2012)** discerned an emergent inclination towards field independence among contemporary learners. This observation becomes even more pertinent when juxtaposed with **Martinez (2003)**, who underscored the transition from physical to digital learning spaces.

- Introducing an affective perspective, **Nelson, Bishara, & Nadkarni (2015)** posited that field-dependent learners often exhibit amplified emotional intelligence—a pivotal aspect in language learning contexts.
- **Ameen (2020)** offered comparative insights from Glasgow and Shanghai, stressing the transformative power of continuous education. Concurrently, Ameen's exploration into Paulo Freire's pedagogical paradigms (2020) presents a meta-narrative, providing contextual breadth.
- **Ameen & Ahmed's (2023)** investigation into the fishbowl technique in TESOL, alongside **Ameen & Ismael's (2023)** cross-cultural TESOL analysis, contributes subtle observations, particularly relevant to Kurdish EFL learners.
- Rounding off this review, **Ameen & Najeeb (2023)** concentrated on the EFL acquisition challenges in Duhok City, echoing and enhancing the main ideas of our study.

In conclusion, the relationship between cognitive styles and academic achievement, particularly in EFL contexts, is multifaceted. The intricate interplay of factors necessitates an integrative approach, encapsulating diverse perspectives and methodologies.

RESEARCH QUESTIONS

This study seeks to give answers to the following research questions:

There are several research questions unfolded concerning field dependent-independent cognitive styles and the academic achievement. Therefore, the following research questions have been constructed and aimed to be answered:

1. What is the relationship between field independent/dependent learning styles and the academic achievement of EFL learners?
2. Is there any effect of gender on Kurdish EFL learners' field independent/dependent learning strategies?

HYPOTHESES

Given the research questions, the following hypotheses have been established:

1. There is no relationship between field independent learners and their academic achievement.
2. There is no relationship between field independent learners and their gender.

METHODOLOGY

For the purpose of data gathering, a digital survey using Google Forms was meticulously devised and subsequently disseminated to the sophomore, junior, and senior students within the English Language Department at the College of Languages, University of Duhok. The research instrument applied was the Group Embedded Figure Test (GEFT). Historically, this test, formulated by Witkin, Oltman, and Raskin in 1971, was established to evaluate the learner's cognitive predispositions towards field-independence and field-dependence. The choice to employ an online medium for participant engagement was deemed most efficacious for this data collection exercise. Among 210 of the morning classes students of the three grades only 49 students responded to the online test. The number of female participants was 34, while the male participants were 15.

The GEFT is organized into three distinct sections. The preliminary section offers an overview of the test and succinctly elucidates the traits of both field-independent and field-dependent students. Subsequent to this, the second section presents seven geometric illustrations, serving as a preparatory exercise to familiarize participants with the test's intent. In this segment, participants are tasked with identifying designated shapes or figures embedded within four potential figures. Prior to commencing this task, a comprehensive guide on selecting the embedded figures from the presented options is provided. Notably, the results from this section are not included in the final scoring. The concluding section (Section 3) comprises 18 figures, from which participants select one out of four options for each query (refer to Appendix 1, A). For scoring metrics, those achieving scores between 11-18 are categorized as field-independent learners; scores between 0-7 denote field-dependent learners. Individuals with scores ranging from 8-10 are classified as exhibiting traits of both cognitive styles. Though participants were advised to conclude the test within a 15-minute timeframe, no formal timers were incorporated. Scoring ranged from a minimum of zero to a maximum of 18, with each accurate selection being equivalent to one point.

Students were informed in the beginning of the test that the study was designed to obtain information about the relationship between the field independent and field dependent cognitive styles. They were assured for the confidentiality

of the gathered data and personal information, such as name, gender, and the score.

RESEARCH FINDINGS

The study endeavored to decipher the nuances between field differentiation and the academic accomplishments of Kurdish EFL Learners. Engaging students from the sophomore, junior, and senior years of the English Language Department at the College of Languages, University of Duhok, it witnessed a participation rate of 49 students from a potential pool of 210. The number of the female participants was 34 (69.4%) and the male participants were 15 (30.6%). Students of the fourth grade responded better than the other grades with 20 students (40.8%), while the students of the third grade were 15 (30.6%) and finally the second grade students were 14 (28.6%). The range of the scores for the 18 questions (figures) is 2-17 points, while the average score is 11-73 points. Table 1 presents the correct answers to the 18 questions (figures) in the test.

Table (1): Performance Distribution by Grade

Questions	Second	Third	Fourth	Total	Percentage
Q1	14	14	16	44	89.8%
Q2	8	8	15	31	63.3
Q3	11	11	17	39	79.6
Q4	14	14	17	45	91.8
Q5	12	13	17	42	85.7
Q6	11	7	13	31	63.3
Q7	3	7	9	19	38.8
Q8	8	8	11	27	55.1
Q9	13	13	16	42	85.7
Q10	10	6	7	23	46.9
Q11	14	13	16	43	87.83
Q12	6	7	4	17	34.7
Q13	6	9	10	25	51
Q14	5	6	10	21	42.9
Q15	14	13	16	43	87.8
Q16	11	8	12	31	63.3
Q17	4	3	1	8	16.3
Q18	14	14	16	44	89.8

Students did well in Q1 with 91.8%, while Q17 took the least score of 16.3%. Among 18 questions, students got more than 50% in 13 questions. Among 20 students of grade 4, only 1 student could find the embedded figure of Question 17 and 1 student found the embedded figure in Question 17.

Table (2): Performance Stratified by Gender

Questions	Female	Male	Total
Q1	**32**	**12**	**44**
Q2	26	5	31
Q3	**27**	**12**	**39**
Q4	32	13	45
Q5	**29**	**13**	**42**
Q6	22	9	31
Q7	**12**	**7**	**19**
Q8	19	8	27
Q9	**31**	**11**	**42**
Q10	17	6	23
Q11	**32**	**11**	**43**
Q12	13	4	17
Q13	**15**	**10**	**25**
Q14	16	5	21
Q15	**29**	**14**	**43**
Q16	21	10	31
Q17	**4**	**4**	**8**
Q18	31	13	44

Female students outnumbered the male students, so they scored better than them. Among 45 correct answers, female students scored 32 points while male students scored 13 points. Both female and male students scored 4 points in Q17, which means that the male students did better than the female students because there are only 15 male students compared to 34 female students.

Based on the above table, both female and male students of the three grades did not do well finding the question figure embedded in 4 answer figures of Question 4.

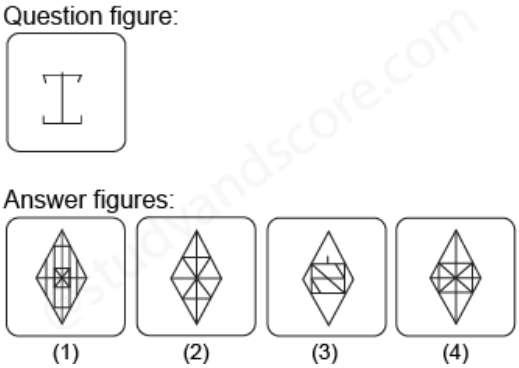

Fig. (1): The hardest embedded figure both female and male students could find in the 4 options

The question figure is embedded in the fourth figure in Figure 1. This geometric is very complex; therefore, only 8 students among 49 could find the embedded or hidden figure. It might be the time limit given to the students that affected their choice finding the correct embedded figure.

Table (3): Students' gender and grade

Grade	Female	Male	Total
Second	10	4	14
Third	**11**	**4**	**15**
Fourth	13	7	20
Grand Total	34	15	49

In table 3, both female and male students of grade 4 responded better to the test than the other students of grade 2 and 3 of the same genders. This is basically because the number of fourth grade students is more than those of the third and second grade.

Table (4): Participants' correct answers with grades and gender

Grade	Female	Male	Total
Second	10	4	14
Third	**10**	**4**	**15**
Fourth	11	5	16
Grand Total	31	13	44

The average score collected from the correct responses of the 49 students is 11-73 points, which means the students of the three grades are field-independent. Students who tend to depend on external signals and the fields are less able to find the simple figures thus are Field Dependent, and those who depend on external signals and the field are more able to find figures, so, Field Independent.

Table (5): Field Independent, Field Dependent, and the mixed FI/FD Cognitive styles

	Grade	Female	Male	Total
Field Independent	second	10	3	13
	third	**9**	**2**	**11**
	fourth	8	5	13
Mixed FI/FD	second	0	1	1
	third	2	2	4
	fourth	0	3	3
Field Dependent	second	0	0	0
	third	0	0	0
	fourth	2	2	4
	Total	**31**	**18**	49
	Grand Total		**49**	

Table 5 shows that second year students scored better than the students of the other grades. This means that these students are field independent. It was hypothesized that academic progress and achievement has a great impact on the cognitive style of the students, which means that fourth year students should perform better than the other earlier grades. The number of the second grade participants was 14, while participants from the fourth grade were 20. Here, fourth year students were expected to get better points because they outnumber the second grade participants, but they were equal being field independent. All the participants of the second grade are field independent except one student being both field independent and field dependent with 10 scored points.

RESEARCH QUESTIONS

After data collection from the GEFT, the researcher set off on data analysis and calculated the results to answer the research questions presented previously. In order to find out and determine the correlation of the cognitive styles and their impact on academic achievement, these questions were answered in the data analysis process.

Q1: What is the relationship between field independent/dependent learning style and the academic achievement of EFL learners?

Q2: What is the relationship between field independent/dependent and their gender?

HYPOTHESES

The following null hypotheses were formulated to guide the study.

H1: There is no relationship between field independent learners and their academic achievement.

H2: There is no relationship between field independent learners and gender.

The hypotheses were tested to demonstrate whether the anticipated hypotheses were accepted or rejected. To test the hypotheses, the GEFT was used to investigate whether there was a considerable difference between FI/FD and students' academic achievement or not. Upon data analysis,

The first assumption is the relationship of FI/FD and their academic achievement or progress. Based on accumulated and analyzed data, learners' cognitive style gets enhanced gradually from one academic stage to another. Students' critical thinking gets improved too, which helps them focus and avoid distraction. This also makes students improve their cognitive style and become more independent.

A variable that is often stated as one of the dominant aspects in the presence of field dependence-field independence cognitive style is gender. Although more female students participated in the test than male students, gender had its impact on the learning style of the students and their academic progress. Female students demonstrated more independency than male students. The existence of field dependence-field independence cognitive style in relation to gender has its own controversy (Witkin & Goodenough, 1981).

CONCLUSION

The findings of this study present the academic progress of both field independent and field dependent students. It is discerned that there is a tangible improvement in performance as students' transition from their initial stages, culminating in a notable progress by the time they reach the fourth and final phase of their college study.

The data also provide insight into the cognitive styles differentiated by gender. A substantial majority of the female respondents demonstrated tendencies towards field independence, while their male counterparts predominantly leaned towards field dependence. This divergence is not merely incidental; the study underscores a significant correlation between the field dependence-field independence cognitive styles and gender.

This stresses the importance of recognizing and understanding these cognitive orientations, as they can deeply influence learning patterns, academic outcomes, and the overall educational experiences of students. This understanding can be instrumental for educators in tailoring their pedagogical approaches, ensuring that each student is catered to in a manner most congruent with their cognitive predisposition.

SUGGESTIONS AND RECOMMENDATIONS

Drawing from the insights gleaned from this research, it is imperative for lecturers within the English Language Department of the College of Languages to go deeper into understanding the cognitive styles of their students. A comprehensive assessment of these cognitive

styles can serve as a guiding compass in creating and implementing pedagogical strategies that resonate with individual learners' inclinations.

By aligning teaching methodologies with students' cognitive styles, specifically field-independence (FI) and field-dependence (FD), educators have the potential to foster a more tailored and efficacious learning environment. This becomes especially salient for freshmen, as an early recognition and adjustment to their FI/FD cognitive styles can substantially bolster their academic achievement. Being aware of the subtle differences in cognitive styles and their subsequent impact on academic achievement can pave the way for a more enriched and adaptive educational success throughout their undergraduate studies.

By diving deep into this research, we hope to further our understanding of the intricate interplay between cognitive styles and academic achievement, especially within the realm of EFL learners. As education continues to evolve, such insights become pivotal in molding pedagogical techniques that cater for individual learner's needs, thus ensuring optimal learning outcomes.

REFERENCE

Alonso, M. (2006). The effects of individual differences in cognitive style on task performance in computer-based learning environments. *Educational Psychology*, 26(3), 349-371. ... [Continued as above]

Altun, A., & Cakan, M. (2006).Undergraduate students' academic achievement, field dependent/independent cognitive styles and attitude towards computers. Educational Technology and Society, 9 (1) 289-297.

Ameen, S. T. (2020). Glasgow and Shanghai Cities as Learning Cities for Continuous Education: What Impact On Society as a Whole? *European Scientific Journal*, 16(13), 101-110.

Ameen, S. T. (2020). Should the Modern Idea of Individual Autonomy Continue to Influence Understandings about the Goal of Education? A Critical Discussion with Reference to Paulo Freire's Critical Pedagogy. *International Journal of Innovation, Creativity and Change*, 13(12).

Ameen, S. T., & Ahmed, S. M. A. (2023). Fishbowl technique at TESOL Classes and Figuring out Speaking Skills Limitations and Solutions (A various schools in Duhok city). *International Journal on Humanities & Social Sciences*, 45(1).

Ameen, S. T., & Ismael, A. M. (2023). TESOL Practices with Constructivism Prospective within Adult and Higher Education with Focus to Iraq and China Models.

Ameen, S. T., & Najeeb, D. D. (2023). Overcoming Hurdles In English Language Acquisition: Exploring Themes And Remedies For Speaking Challenges Among Basic School Students In Duhok City. *Russian Law Journal*, 11(5).

Bowlin, D.A. (1988). An investigation of the relationships between Field dependent/independent cognitive styles and sex, I.Q., academic achievement, curriculum track selection and hemispheric preference in high school seniors.Dissertation Abstracts International, 49, 1405-A. Education," sponsored by the Graduate Record Examination Board, Montreal, Canada.

Dwyer, F. M., & Moore, D. M. (1994). The effect of colour coding and test type (visual/verbal) on students identified as possessing different field dependence levels. British Journal of Educational Technology. 25(3): pp. 217-219. doi: 10.1111/j.1467-8535.1994.tb00108.x.

Hansen, R. J., & Stansfield C. (1981). The Relationship of Field Dependent-Independent Cognitive Styles to Foreign Language Achievement. Language Learning 31(2): pp.349 – 367. doi: 10.1111/j.1467-1770.1981.tb01389.x

Hansen, R. J., & Stansfield C. (1983). Field Dependence-Independence as a Variable in Second Language Cloze Test Performance. TESOL Quarterly 17(1): pp.29-38. doi: 10.2307/3586422

Henson and Eller (1999). Educational Psychology for effective teaching. Wadsworth Pub Co.

Leaver, B. L., Ehrman, M., & Shekhtman, B, (2005). Achieving Success in Second Language Acquisition. Cambridge University Press, p. 65.

Liu, Y., & Ginther, D. (1999). Cognitive styles and distance education. Journal of Distance Learning Administration, 2 (3) pp. 78-92.

Luk, S. C. (1998).The relationship between cognitive style and academic achievement. British Educational Research Association. V. 29, 2, pp. 137-147, doi.org/10.1111/1467-8535.00055.

Messick, S. (1984). The nature of cognitive styles: Problems and promise in educational practice. Educational Psychologist, 19, 59-74.

Niroomand, S. M., & Rostampour, M. (2014). The Impact of Field Dependence/Independence Cognitive Styles and Gender Differences on Lexical Knowledge: The Case of Iranian Academic EFL Learners. Theory and Practice in Language Studies, Vol. 4, No. (10), pp. 2173-2179. doi:10.4304/tpls.4.10.2173-2179

Nozari, A.Y., & Siamian, H. (2015). The Relationship between Field Dependent-Independent Cognitive Style and Understanding of English Text Reading and Academic Success. Mater Sociomed. (1):39-41. doi: 10.5455/msm.2014.27.39-41.

Onyekuru, B.U. (2015). Field Dependence-Field Independence Cognitive Style, Gender, Career Choice and Academic Achievement of Secondary School Students in Emohua Local Government Area of Rivers State. Journal of Education and Practice, 6, 76-85.

OXFORD, R. L. (1990). Language Learning Strategies: What Every Teacher Should Know. Boston : Heinle and Heinle Publishers, 1990. 343 p. ISBN 0-8384-2862-2.

Pithers, R. T. (2002). Cognitive learning styles: A review of field dependent-independent approach. Journal of Vocational Education and raining, 13 (4), pp. 267-279.

Portis, I. & Simpson F. M. (1995). Evaluation of Cognitive Styles for Pre-professorial Educators. Paper presented at the Annual meeting of the Mid-south Educational Research Association Alabama, U.S.

Rayner, S., & Riding, R. J. (1997). Towards a categorization of cognitive styles and learning styles. Educational Psychology, 17, pp. 5-27.

Sabet, M. K., & Mohammadi, S. (2013). Dependence Styles and Reading Comprehension Abilities of EFL Readers. Theory and Practice in Language Studies, Vol. 3, No. 11, pp. 2141-2150, doi:10.4304/tpls.3.11.2141-2150

Samuel, N. Mercy, & Orluwene, G. W. (2019). Influence of field dependent-independent cognitive style on students' academic achievement in English language in junior secondary schools in rivers state. International Journal of Multidisciplinary Education and Research. V. 4; Issue 2; Page No. 48-53.

Saracho, O.N. (1998). Socialization factors in the cognitive style and play of young children. International Journal of Educational Research. 1998; 29(3): 263-276.

Soozandehfar, S. M., & Souzandehfar, M. (2011). The effects of field-dependent/field-independent cognitive styles and gender on second language speaking performance. California Linguistic Notes. V. 36 No. 2.

Tinajero, C., & Páramo, M.F. (1998). Field dependence-independence cognitive style and academic achievement: A review of research and theory. Eur J Psychol Educ 13, 227–251. doi.org/10.1007/BF03173091

Witkin, H. A. (1973). The Role of Cognitive Style in Academic Performance and in Teacher-Student Relations. ETS Research Bulletin Series, 1973: I 58. doi.org/10.1002/j.2333-8504.1973.tb00450.x

Witkin, H. A. (1976). The perception of upright. In S. Messick (Ed.) Individuality in learning: Implications of cognitive styles and creativity for human development. San Francisco: Jossey Bass Publishers.

Witkin, H.A., & Goodenough, D.R. (1981). Cognitive styles: Essence and origin. New York: International Universities Press.

Wooldridge, B., & Bartolf, M. H. (2006). The Field Dependence/Field Independence Learning Styles: Implications for Adult Student Diversity, Outcomes Assessment and Accountability. Sims, R. R., & Sims, S. J. (Ed). Learning Styles and Learning: A Key to Meeting the Accountability Demands in Education (pp. 237-257). New York: Nova Science Publisher, Inc.

Yazici, H. (2016). Role of learning style preferences and interactive response systems on student learning outcomes. International Journal of Information and Operations Management Education. 6(2): p. 109. doi: 10.1504/IJIOME.2016.076046.

Zhang, L. F., & Sternberg, R. J. (2005). A threefold model of intellectual styles. Educational Psychology Review, 17(1), 1-53.

APPENDIX 1

A. Sample GEFT