

COGNITIVE STYLE, SELF-EFFICACY AND ACADEMIC GOAL ORIENTATION OF STUDENTS WITH HEARING IMPAIRMENT

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Abstract

Hearing impairment could impact on students' self efficacy and academic goal orientation. The different ways students process and perceive information could inhibit or boost their self efficacy beliefs and goal orientation. This study investigated the relationship of cognitive style on self efficacy beliefs and academic goal orientation of students with hearing impairment. Participants in this study were 104 students with hearing impairment drawn from four secondary schools for the hearing impaired in South East, Nigeria. Three standardized instruments were used for the study namely Group Embedded Figures Test (GEFT), Achievement Goal orientation Scale (AGOS) and Students' Self-Efficacy Questionnaire (SSEQ). Data collected were analyzed using Pearson Product Moment Correlational coefficient (r) and multiple regressions. The findings show that cognitive style significantly predicts students' self-efficacy beliefs and academic goal orientation. The educational implications of this finding for teachers, counselors, social workers and parents were also discussed.

Introduction

The importance of auditory impulses and organ in social interaction has been highlighted and documented by previous literatures (Mayer, Akamaksu & Stewart 2002; Obiyo & Udaya, 2013). Given the importance auditory processes, students with hearing impairments (HIs) are continually facing critical challenge in school settings (Mayer, Akamaksu & Stewart 2002). The challenges manifest in their inability to fully perceive learning experiences through the sense of hearing which leads to reduced social, cognitive and behavioral functioning (Indiramma & Phil, 2015).

Students with hearing impairment (SHI) are those students who lost their hearing either due to diseases or accidents. Hearing impairment is a general term indicating a hearing inability which may range in severity from mild to profound (Ofile, 2006; Batool, Batool, Elahi & Tariq, 2015). Hearing impairment are characterised by one or combinations of the following signs: turning one ear towards the speaker, favouring one ear conversation and misunderstanding conversation when

the speakers' face cannot be seen (Woolfolk, 2011). Other symptoms include seeming distracted or confused at times, not following directions, frequently asking people to repeat what they have said, mispronouncing new words of names and being reluctant to participate in class discussions (Obikeze & Ofojebe, 2000; Woolfolk, 2011). HI generally affects a child's physical, cognitive, emotional, social and behavioral functions which ultimately affect his/her educational performance and cause the child to have some challenges relating to learning in general classroom by affecting their acquisition of academic skills necessary for academic success (Individual with Disability Act (IDEA) 2001; Smith, Pollock, Patton & Dowdy, 2004). Consequently, HI students need to employ different cognitive styles which to some extent could help them overcome the challenges posed by hearing deficiency and access successful and effective academic learning. Thus, students with hearing impairment tend to adopt different styles of perception in form of cognitive styles

Cognitive styles are the information processing habits of individual learner (Batool, Batool, Elahi & Tariq, 2015). For the researchers, cognitive style could be perceived as one's preferred way of processing and interpreting information. Cognitive styles could also be seen as a stable indicator of how learners perceive and interpret information and respond to learning environment (Cheng & Li-fang, 2014). It is therefore perceived by the researchers as the individual preferred way of processing and interpreting information. Cognitive styles differ from learner to learner and constitute one of the individual differences which the teachers are supposed to be conscious of in every learning environment.

There are different recognised cognitive styles available in the literature, among which are visual/haptic cognitive styles; visualize/verbalize, levelling/sharpening, serialised/holist and field dependent/field independent (Cheng & Li-fang, 2014). Visual vs Haptic cognitive style dimension describes individual's preference for attending to and processing visual versus verbal information (Denurkana & Demirba, 2010) levelling/sharpening cognitive style dimension describes how individual perceive images (stances and gunawardena, 1998). Serialist/holist cognitive style describes the way that learners select and represent information. Field dependent vs field independent is a measure of a learner's perceptual and processing characteristics which influence the preferences and strategies, learners use to perceive, process, store and recall information (Denurkana et al, 2010).

Based on field dependent/field independent dimension Volcova and Rusalov, 2016 identified three field related cognitive styles. – Field independent (FI) field dependent (FD) and field neutral (FN). They contended that individual have different cognitive styles according to their ways of disembodied figures from distracting surroundings. According to Volcova et al 2016, field independent person approach problems in analytic way while field dependent persons approach problems in global way (Bahar, 2003). Field dependent individuals have difficulty in separating incoming information from its contextual surroundings and are more likely to be influenced by external cues and to be more selective in their information uptake.

They are influenced by external factors while trying to interpret things they see in their environment due to the fact that they tend to view things globally.

Field independent persons have less difficulty in separating the most essential information from its external cues; and more likely to be influenced by internal cues than external cue. They are selective in their information impute (Zhang 2004). Such individuals are not influenced by external factors, but rather try as much as possible to look at things in parts so as to be able to come up with a better interpretation.

While the FD and FI are the two extremes of cognitive of cognitive style spectrum, the field-neutral individuals are more adaptable to any situation (Nnodi, 2012). Field neutral persons are neither field dependent nor field independent. They are at the middle of these extreme modes of learning. They like moderating in their daily activities with less routines and protocols (Grittin & Franklin, 2006). Learners with this cognitive style prefer somewhat less structured instructional sequencing and demonstrate preference to academic subjects (like biology, accounting etc) that are less analytical and like occupation (medicine, pharmacology, education) that are geared towards helping people in less structured environment (Govindasany, Muniandy & Jamaluddin, 2010). These differences in perception and interpretation of information could go a long way in influencing and determining the student's self-efficacy (Govindasany, et al, 2010; Nnodi, 2012) in diverse areas of learning.

Self-efficacy is one of the products of Bandura's 1986 social cognitive theory of learning. Self-efficacy is peoples' belief in their capabilities to produce designated level of performance that exercise influence over events that affect their lives (Bandura, 1986; 1998). It is the belief about personal competence in a particular situation (Woolfolk, 2011). Bandura pointed out that motivation; affective status and action are based on the person's self-efficacy. One's expectations for success or failure at a particular task could be influenced by one's sense of self efficacy. Individual's self-confidence in an area is known to be a measure of his/her self-efficacy in that particular area. For instance, if a student has a high positive self-efficacy about their learning a second language, they will believe that they have the power and ability to reach their goals. Moreso, literatures support that individuals who believe that they can successfully complete a task (or those who have high self-efficacy) perform better as compared to those who lack such a belief (Jackson, 2002; Pajares, 2003).

Motivation researchers, particularly those taking the social cognitive perspective suggest that students' beliefs could be shaped by their perceptions of the learning environment. Therefore, it is benfital to find out whether students' self-efficacy is formed and maintained based on their styles of percieving the environment. Researchers have examined the interplay between self-efficacy and goal orientations in predicting learning and achievement, and have suggested that self-efficacy plays a moderating role between performance goals and patterns of learning (Fan, 2013). Although such a moderating effect has been identified, there is dearth of correlation studies addressing the direct relationship between cognitive styles, goal orientation and self-efficacy belief. The few studies examining the interaction effect

between goal orientation and self-efficacy have focused primarily on performance-approach goals, ignoring performance-avoidance goals and mastery goals.

Also, findings have been contradictory, with some researchers reporting that performance-approach goals is unpredictable of self-efficacy (Middleton & Midgley, 2007), others have found a positive relationship between this type of goal orientation and self-efficacy (Bong, 2001). Adding to these problems is the fact that out of all the works reviewed in this area none has been conducted on hearing impaired population.

It is less clear about whether these goal orientations relate to patterns of learning or whether it can predict self-efficacy beliefs of students with hearing impairment. Empirical proof is also lacking as to whether goal orientations and cognitive styles interact to predict self-efficacy. It is based on this premise that the present study was conducted to find out the predictive power of cognitive styles and goal orientations on self-efficacy of students with hearing impairments. Such venture will provide a framework for helping the students with hearing impairments to improve their learning.

Three research questions and three hypotheses guided the study.

1. What is the predictive power of cognitive styles on the self-efficacy belief of students with hearing impairment?
2. To what extent can Goal orientations predict self-efficacy beliefs of students with hearing impairment?
3. To what extent do cognitive styles and goal orientation interact to predict the self-efficacy of students with hearing impairment?

Ho₁; Cognitive styles (field dependent, field independent and field neutral) do not significantly predict the self-efficacy of students with hearing impairment.

Ho₂; Goal orientations (mastery, performance and work avoidance) do not significantly predict with the self-efficacy of students with hearing impairment.

Ho₃; Cognitive styles and goal orientations do not interact significantly to predict the self-efficacy of students with hearing impairments.

Method

The research adopted a co-relational research design. Correlational design is considered appropriate for this study because, the study sought to investigate the extent to which students' cognitive style can predict the self-efficacy and goal orientation of students with hearing impairment. Participants in this study were 104 students with hearing impairment drawn from four secondary schools for the hearing impaired in South East, Nigeria. Out of the total participants, 54% (n=) were males and 46% (n=) were females.

Measures

Data for the study were generated using three instruments: the Group Embedded Figures Test (GEFT) by Witkin, Oltman, Raskin, and Karp (1971); Self-efficacy Questionnaire (SEQ) and Achievement goal orientation questionnaire developed by Meece & Miller (2001).

The Group Embedded Figures Test was adopted to identify the students' cognitive styles. The GEFT is a standardized instrument with a reliability estimate of .82 (Miller, 1996). The test consists of 3 sections. The first section is for practice purposes, and it contains 7 items. The second and third parts are test figures. Both the second and third sections contain 9 items each. Participants were given 10 minutes to complete each part. The instrument requires each individual to trace a specified simple figure that is embedded within a complex design. A subject's total score was formed by a number of simple figures correctly traced in sections 2 and 3 of the test. Students who score 0 to 8 were defined as field dependent, those who score 9 to 14 were defined as field neutral and those who score 15 to 18 were defined as field independent learners. The psychometric properties of the instrument have been investigated in cross-cultural settings and accepted as quite reasonable. Reliability score of $r = .82$ have been shown to be acceptable (Alavi & Kaivanpanah, 2009).

The Achievement goal orientation questionnaire (AGOQ): This instrument adopted from Achievement goal orientation questionnaire developed by Meece & Miller (2001). The instrument is made up of three subscales of mastery goal, performance goal and work avoidance goal orientation. The AGOQ was used to assess general predisposition toward learning and/or performance goals. Each question was answered on a 4-point scale (1 = *strongly disagree* and 4 = *strongly agree*). Responses were reverse-coded such that a higher score indicated a stronger goal orientation.

Students' Self-Efficacy Questionnaire (SSEQ) was developed by the researchers to ascertain students' self-efficacy beliefs in accomplishing tasks in science concepts. The instrument consists of 27 items. The instrument is on four-point Likert scale, with the positively skewed items weighted as Strongly Agree (SA=4), Agree (A= 3), Disagree (D= 2), Strongly Disagree (SD=1), while the negatively skewed items were reversed.

Data collected for the study were analyzed using means and standard deviation to answer research questions and Pearson correlation statistics and Analysis of Covariance (ANCOVA) to test hypotheses.

The results of this study were presented according to research questions and hypotheses that guided this study.

Table 1: Pearson-Product Moment Correlation Coefficient (r) Showing Relationship between Cognitive Styles and Self efficacy of students with Hearing Impairment.

Cognitive style	N	Pearson Correlation (r)	R square	Adjusted R square	std error of estimate
Field dependent	39	.33	.33	.31	.49
Field independent	35	.57	.44	.03	.48
Field Neutral	30	.61	.36	.33	.49

Data in the table 1 above show the relationships between the students' cognitive styles and their self efficacy. Field neutral cognitive style had the highest

positive correlation with the self-efficacy ($r=.61$). Field independent also had a high positive relationship with self-efficacy $r=.75$ and field dependent had the lowest correlation with $r=.33$. This indicated that students who are field neutral develop high academic self efficacy, followed by field independent and lastly field dependent. Hypothesis 1 further addressed this research question.

Table 2: Regression analysis showing the level to which each cognitive style can predict self-efficacy

	Cog. Styles	Sun of squares	Df	Mean square	F	Sig
Regression	Field dependent	.192	1	.192	10.781	.007
	Field independent	1.102	1	1.102	10.654	.003
	Field Neutral	.003	1	.803	9.011	.000

Data in table 1 above revealed that all the cognitive styles significantly predicted the self-efficacy belief of students with HI. The F-value of field dependent is 10.781 which is significant at .007 showing that the relationship is also significant at 0.05 alpha level. On the other hand, the field independent cognitive style has F-value of 10.654 which is significant at .003 level of significance. This indicates a significant positive relationship with the self-efficacy of students with hearing impairment. For the field neutral, the table further shows the F-value of 9.011 which is significant at .000 level of significance. Therefore the null hypothesis of no significant prediction is rejected and the alternative accepted. Thus, cognitive styles (Field dependent, field independent and field neutral) significantly predict self efficacy of students with hearing impairment.

Table 3: Pearson-Product Moment Correlation Coefficient (r) Showing Relationship between Goal Orientations and self efficacy beliefs of students with Hearing Impairment.

Goal orientation	N	Pearson correlation (r)	R square	Adjusted R square	Std error of the estimate
Mastery	34	.503	.082	.064	.89715
Performance	48	.143	.020	.109	.46736
Work-Avoidance	22	-.413	-.170	.162	.45322

Data in the table 4 above show the relationships between the students' Goal orientations and their self efficacy belief. Mastery goal orientation had a very high positive relationship with the students' self-efficacy with $r =.503$. Performance goal orientation had a very low positive relationship with the students' self-efficacy ($r=$

.143). On the other hand, work avoidance orientation had a high negative relationship with the self efficacy of students' with hearing impairment ($r = -.413$). Hypothesis 2 further addressed this research question.

Table 4: Regression analysis showing the level to which each goal orientation can predict self-efficacy

	Goal orientation	Sum of squares	Df	Mean square	F	Sig
Regression	Mastery	1.045	1	1.045	4.402	.038
	Performance	2.972	1	2.972	1.607	.060
	Work avoidance	4.299	1	4.299	20.929	.000

Data in table three above show that goal orientations have differential relationship with the self-efficacy of students with hearing impairments. Mastery goal orientation had significant positive relationship with academic self-efficacy of students with hearing impairments F-value =4.402 which is significant at .038 alpha level revealing a significant relationship. It shows that performance goal had insignificant positive relationship with hearing impaired students' self-efficacy with F-value=1.607 which is significant at .060 alpha level showing that the relationship is not significant. Work avoidance had a significant negative relationship with self-efficacy with F-value = 20.929 which is significant at .000 alpha level and is also significant at .05.

Table 5: Pearson-Product Moment Correlation Coefficient (r) showing the Interaction Relationship of Cognitive styles and Goal Orientation with the self-efficacy of Students with Hearing Impairment.

Cognitive Styles	Goal orientation	N	Pearson Correlation (r)	R Square	Adjusted R	Std error of estimate
Field dependent	Mastery goal	14	.230	42.6	.359	.4123
	Performance goal	18	.741	43.91	.524	.8821
	Work avoidance	07	-.723	21.73	.893	.5829
Field independent	Mastery	19	.580	38.96	.633	.7543
	Performance	10	.032	10.68	.673	.8113
	Work avoidance	06	-.771	29.02	-.651	.3768
Field Neutral	Mastery goal	19	.493	.244	.241	.5429
	Performance goal	5	.371	.138	.135	.3376
	Work avoidance	4	-.338	23.22	.004	.5118

Data in the table 3 above show how students' cognitive styles and their goal orientations jointly co-relate with their self-efficacy. Field dependent cognitive style and mastery orientation interactively have a low positive relationship with self-

efficacy as indicated by $r = .230$. This implies that students with hearing impairments who are field dependent and mastery oriented also had high self-efficacy. On the other hand, field dependent cognitive style and performance orientation interactively have a higher correlation with self-efficacy with $r = .541$. Field dependent cognitive style also interact with work avoidance goal orientation to bring about negative correlation with self-efficacy $r = -.236$.

Field independent cognitive style interacts with performance goal orientation to have low positive correlation with self-efficacy ($r = .032$). Self-efficacy had the highest correlation with the interaction of Field independent cognitive style and mastery goal orientation with $r = .580$. On the other hand, interaction of field independent cognitive style, and work avoidance goal orientation have high negative correlation with the students' self-efficacy with $r = .771$. This indicated specifically that students who had high scores in Field independent cognitive style and mastery goal orientation also had highest self-efficacy.

On the other hand, student with hearing impairment who are field neutral in their learning mode pursue mastery as against performance and work avoidant goals. This is indicated by $r = .602$ for mastery goal orientation as opposed to $r = -.212$ and $r = -.026$ for performance goal and work avoidant goal orientations respectively. To further address the above research question, a corresponding hypothesis 2 was used to test the significant level of the relationship.

Table 6: Regression analysis showing the level to which cognitive styles interact with goal orientations to predict self-efficacy

Source	Sum of squares	Df	Mean square	F	Sig
Corrected model	20503.240 ^a	4	5125.810	48.454	.000
Field dependent*Mastery Field	16.463	2	16.463	44.427	.001
dependent*performance	14.994	2	14.994	40.285	.000
Field dependent*Work avoidance	-16.561	2	-16.561	18.338	.000
Field independent*Mastery Field	15.891	2	15.891	15.891	.000
independent*performance	53.383	2	53.383	33.293	.171
Field independent* Work avoidance	86.056	2	86.056	66.014	.004
Field Neutralt*Mastery Field	85.303	2	28.436	96.456	.000
Neutrat*performance	16.351	2	5.450	47.796	.000
Field Neutrat* Work avoidance	22.357	2	22.357	81.433	.000

Data in table 6 above revealed that cognitive styles and goal orientations interact significantly to predicted the self efficacy of students with hearing impairment. Specifically, field dependent style and mastery goal significantly predicted the self-efficacy of students with hearing impairment. This is shown by the F-value of 44.427 which is significant at .001 level and also significant at .05 probability level. Field dependent style and Performance goal orientation also

significantly predicted self-efficacy of students with HI, having F-value of 40.285 which is significant at .000 and is also significant at .05 probability level. Field dependent cognitive style and work avoidant did significantly predict the self-efficacy of students with hearing impairment.

On the other hand, field independent cognitive style and mastery goal orientation significantly predicted students' self-efficacy with $F=15.891$, which is significant at .000 and is also significant at .05 probability level. Field independent and performance goal orientation did not significantly predict self-efficacy with $f=33.293$, which is significant at .171 and not significant at .05 probability level. On the other hand, field independent and work avoidant goal orientation negatively predict the self-efficacy of students with $F= 66.014$ which is significant at .04 and is also significant at .05 probability level.

The table also reveals the predictive power of field neutral and mastery orientation to be significant at .000 probability level. Field neutral and performance orientation had the $F= 47.796$ which is significant at .000 and at .05. Field neutral and work avoidance orientation had negative predictive power on self-efficacy of students with hearing impairment with $F= 81.433$ which is significant at .000 probability level which is also significant at .05.

Discussion

Test of relationship between cognitive styles and self efficacy shows that different cognitive styles correlate differently with self-efficacy beliefs of students with hearing impairment. Field neutral style had the strongest relationship and predictive power on self-efficacy than field- dependent and field independent. However, all the styles had positive relationships with self efficacy. This results is consistent with that of Deture, (2004) who found out that cognitive styles influenced self efficacy differently with the field dependent style having the highest influence on online technology self efficacy. The result contradicts that of Govindasany, Muniandy & Jamaluddin, (2010) and Nnodi (2012) who observed that cognitive style influences the self-efficacy of students in like manner. The motivation and goal orientation can be effectively regulated with a proper usage of cognitive styles. However, this result is different from the above two works in that the present work reveals field neutral style as the highest correlate of academic self efficacy of the students with hearing impaired. This could be because of the fact that, the loss of hearing could demand a balance between extrinsic (especially visual) and intrinsic information processing for them to be successful in their learning. Due to the fact that success boosts self-efficacy beliefs, this could be attributable for high relationship between field neutral and academic self efficacy belief. This implies that the more the hearing impaired students apply field neutral cognitive style, the higher the self-efficacy and vice-versa.

The findings of this study further showed that goal orientations have differential relationship with the self-efficacy of students with hearing impairments. Mastery goal orientation had significant positive relationship with academic self-efficacy of students with hearing impairments. Performance goal had insignificant

positive relationship with hearing impaired students' self-efficacy. Work avoidance had a significant negative relationship with self-efficacy. The results of this study is in agreement with Jackson, 2002 who identified that performance goal is unproductive of students self efficacy in contrary to positive relationship between this type of goal orientation and self-efficacy as in (Bong, 2001). This implies that development of strong academic self efficacy by the students with hearing impairments cannot be based on their performance orientation. Shim & Ryan, (2005) observed that individuals' self-efficacy beliefs may influence the types of goals they adopt for learning and it is the goals that individuals set that influence their actions, reactions, and motivation for learning. However, this is revealed in the fact that mastery goal had highly significant relationship with self-efficacy, indicating that the higher the self-efficacy the more mastery goal orientation and vice-versa (Jackson, 2002; Pajares, 2003).

Results of this study also revealed that cognitive styles and goal orientations interact to predict the self-efficacy of students with hearing impairment. Field dependent cognitive style interacts with performance goal and mastery goal to jointly have significant relationship with self-efficacy of students with hearing impairment. Field dependent cognitive style and work avoidance orientation had a negative relationship with the self-efficacy.

On the other hand, field independent cognitive style interacts with mastery orientation to predict the self-efficacy of students with hearing impairment. That is to say that, students with hearing impairments who had field independent cognitive style and are mastery oriented learners also had high self efficacy. Field independent and performance goal orientation did not significantly predict self-efficacy. On the other hand, field independent and work avoidant goal orientation negatively predict the self-efficacy of students.

The results also revealed that field neutral and mastery orientation have significant co relation with self-efficacy of students with hearing impairment. Field neutral and performance orientation had a significant predictive power on the self efficacy of students with hearing impairment. Field neutral and work avoidance orientation had negative predictive power on self-efficacy of students with hearing.

The results are consistent with that of Kadiravan (2012) which revealed that cognitive styles influence all the three types of goal orientation, of higher secondary students. Delahaija, & Damb, (2015) found out that a strong learning goal orientation help the students to developed more effective (i.e. more problem-focused coping and less emotion-focused coping) coping styles, and metacognitive awareness. It can therefore be deduced that the kind of academic goal a learner sets act as a motivator spurring the learner to adopt a particular style of cognition. A combination of cognitive styles and goal orientations can induce differences in achievement which can also affect their self-efficacy, even among individual of the same ability.

Conclusion,

Base on the findings of this study, the following conclusion are drawn:

Cognitive styles have positive relationship with the self efficacy belief of students with hearing impairment. Specifically, though all the cognitive styles have positive relationship with self efficacy, field neutral has the strongest predictive power than field dependent and field independent on self-efficacy.

Different goal orientations have different predictive power on self-efficacy of students with hearing impairment. Mastery goal orientation had high positive relationship and predictive power on self-efficacy of students with hearing impairment. Performance goal orientation had very low correlation with the self efficacy of students with hearing impairment. Work avoidance goal orientation have high negative relationship and predictive power on self-efficacy of students with hearing impairment.

Cognitive styles (field dependent, field neutral and field independent) and goal orientations interactively predict the self-efficacy of students with hearing impairment. Field dependent cognitive style interacts with performance goal and mastery goal to have significant relationship with self-efficacy of students with hearing impairment. Field dependent cognitive style and work avoidance orientation had a negative relationship with the self-efficacy. Field independent and mastery orientation interactively predict the self-efficacy of students with hearing impairment. Field independent and performance goal orientation did not significantly predict self-efficacy. Field independent and work avoidant goal orientation negatively predict the self-efficacy of students. Field neutral and mastery orientation have significant relation with self-efficacy of students with hearing impairment. Field neutral and performance orientation had a significant predictive power on the self efficacy of students with hearing impairment. Field neutral and work avoidance orientation had negative predictive power on self-efficacy of students with hearing.

Implications:

The findings of this study provide practical implications for teaching and learning of the students with hearing impairment. Building on the framework of the results of this study will help the teachers to promote learning, performance, and motivation among learners with hearing impairments and can even be extended to hearing students.

- Having found out the relationship between self-efficacy and different cognitive styles, it will help the teachers adopt different ways of encouraging their hearing impaired students to adopt their own cognitive processing style appropriate for them based on their individual differences.
- It will also help the teachers adopt strategies geared towards increasing the academic self-efficacy of students with hearing impairments. This can be done by modelling the right goal orientation and encouraging the students' cognitive styles, together with presenting tasks at moderate difficulties that will enable the students experience success.

- Modelling high self-efficacy through actions and oral communication is also worthwhile.
- Teachers should help the students to set mastery goal that would enable them de-emphasize relative performances as self-efficacy is improved by mastery experience. So, helping the students with hearing impairments to adopt and emphasize mastery goals is imperative to their learning.
- The work also act as pointer to combinations of goal orientations that can work with different cognitive styles to put the hearing impaired students on a high self efficacy for learning.

Recomendation

1. Teachers should adopt different ways of encouraging their hearing impaired students to adopt their own cognitive processing style appropriate for them based on their individual differences.
2. teachers should adopt strategies geared towards increasing the academic self-efficacy of students with hearing impairments
3. Teachers should help direct students with hearing impairment towards mastery goal that would enable them stengthen their self-efficacy.
4. Curriculum planners should take into consideration, the individual differences in hearing impaired students' learning styles during curriculum development.

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