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RESEARCH PAPER

# Effect of Feedback Specificity On Students' Academic Self-Efficacy at Intermediate Level

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**ABSTRACT**

The objectives of the study were to find out the effect of feedba specificity on students' academic self-efficacy and to find out t interaction effects of ability and feedback specificity on students' academ self-efficacy. The study was experimental and 2x2 factorial design w used. The target population of the study was comprised of all the fema students registered in the program F.A Part-II with the elective subject education at university of Gujrat. Sample of the study was comprised of students. *A*ll the students included in the sample were divided into tv groups (i.e. High achievers and Low achievers). Secondly, all the studer of F.A Part-II (Section B) were selected randomly to constitute two grou (experimental and control group). In this way, both experimental a control groups consisted of twenty four (24) students. For data collecti instrument named "The Motivated Strategies for Learning Questionnai (MSLQ)" was adapted by the researcher. The study's main resu concluded that different strategies of feedback specificity remain significant and enhanced students' academic self-efficacy. It recommended that institutions for intermediate level should inclu elaborative feedback strategies as part of the teaching learning process.

## Introduction

Feedback is the most necessary component in teaching learning process (Askew, 2000) and high quality feedback is considered crucial for valuable learning. The basic purpose of elaboration feedback is to build up long-life learning habits and assist the learner towards success (Evans, 2013).

Although the basic function of feedback is to transmits the evaluative or corrective information about an event, action and educational task. The term feedback specificity represents the information level prevailing by the message of feedback (Goodman & Handrick, 2004) that is also called elaborated feedback, which gives information related to the precise answers the questions. In different studies, it is mentioned that feedback is considered more effective when it gives detail about the improvement of response in spite of focusing to label the student's work as wrong or correct.

Several types of information based feedback types, as either simple is verification feedback which is usually being practiced in Pakistani educational institutions while more complex is elaboration feedback the researches shows that elaborated information is better for learning than verification feedback. The basic feature of verification feedback is that it tells the learner only about his correct or wrong response so verification feedback focuses on errors in response the learner without providing any instruction or suggestions how to

locate the correct answer and to improve while elaboration feedback provides the cause of incorrect answer why the response is incorrect and why exact answer is right it also helps students to search out the correct answer by giving them hints about right direction (Shute,2008).

According to various researchers an effective feedback can play the role as an influential agent to influence students' success (Hattie and Timperley, 2007). Students' learning attitude to perceive feedback in its actual sense in the direction of their academic effort based on sort of feedback they receive. It is the dire need at intermediate level students to provide the proper feedback on their learning tasks, may lead them to precede their distinction by putting their maximum effort.

Self-efficacy represents that it is an individual's 'trust in their own capabilities to achieve set targets (Hsieh, Sullivan, & Guerra, 2007).Three main types of self-efficacy are being highlighted by Barry and Finney (2009), which are as social, roommate, and academic self-efficacy of students. The study concerns academic self-efficacy among students which is defined by researchers as students' trust and confidence in their competence and talent to plan, organize, and to complete academic related activities effectively at the required level (Zajacova et al., 2005).So academic self-efficacy is the aptitude perceived by the learner to accomplish learning tasks successfully. While Self-efficacy at college level is not only necessary to fulfill teaching learning intentions and for students' social adjustment, but also act as a dynamic agent to the betterment and self-regulation of students (Gore, 2006).

**Literature Review**

In learning system, academic self-efficacy is considered as a significant feature which plays an imperative role in learners' success; because it persuades the options students create and the instructions they practice (Pajares, 2002). Students' academic self-efficacy refers to idea that they can complete a chosen level of an academic assignment or achieve a particular scholastic objective successfully (Eccles & Wigfield, 2002).

According to Gore (2006), self-efficacy is learners' trust and assurance in their abilities and skills to organize, plan, and complete academic activities fruitfully at the crucial level. At higher level, self-efficacy is vital for not merely academic objectives and social adjustment, but it is also essential for the betterment and personal adjustment of learners.

In general, four sources influence self-efficacy. These sources include enable of mastery experience that is, personal experience; explicit understandings, other people's experience; oral influence, judgment or feedback from others; and physical and emotional conditions that is, emotion, pain, fatigue and stress (Hodges, 2008).

According to Linenbrink and Pintrich (2003), students' academic self-efficacy is essentially linked with learners' learning, intellectual involvement, logical thinking, speculative dedication, tactic use, persistence, inclination to unhelpful passions and success. Students who believe in their potential to arrange, perform, and control their problems or academic performance at a selected level of capability is representing high academic self-efficiency. Academic self-efficacy is usually thought to be a multi construct discriminated across numerous domains of learning.

So far, it has been reported by many preceding studies that academic self-efficacy of students is strongly connected with academic attainment (Honicke and Broadbent, 2016). It was also concluded that higher scores regarding academic self-efficacy are more credible to bring forward higher levels of academic accomplishment. According to Richardson et al. (2012), academic enactment, grade goals and effort directive are sturdy features related to

academic self-efficacy. In another study, Honicke and Broadbent (2016), observed that effort directive, profound processing approaches, and goal alignments have moderate association between academic self-efficacy and academic enactment.

In addition, various longitudinal studies has been conducted on the relationship between academic self-efficacy and academic enactment, the furthermost contemporary meta-analysis discloses that a higher level of academic self-efficacy increases academic performance of students in educational setting (Talsma et al., 2018). Some studies also exposes that there is no significant association between academic self-efficacy of students and their academic performance (Gębka, 2014). At present, academic self-efficacy is considered to be one of the most imperative features or forecasters for learners' achievement in learning process. It is concluded that improvement in an individual' academic self-efficacy have direct positive impact with his/her academic performance.

It is described that self-efficacy of students is directly linked with their motivation level. Students having high level of self-efficacy have capability to show better results according to their desire, showing high level of motivation to solve and face different difficulties during their learning process (Pajares, 2012). Students can be extrinsically inspired to comprehend and entertain according to the provided feedback or can be intrinsically motivated to learn with confidence keeping in view the feedback (Ryan & Deci, 2000).

Feedback in teaching learning process contains of various kinds of answers by the teacher to a student so that the presentation, assertiveness, conduct and attainment can be improved. Feedback is the vigorous part of teaching learning procedure. It is viewed as an imperative aspect connected to student performance. It is an optimistic strengthening component for students to achieve goals of teaching learning process (Scott & Dinham, 2005).

It is compulsory for the teacher and the student to develop an unflinching relationship among them for the sake of suitable development and growth of a student. The necessary needs of individuals in the classroom can be recognized in this way. Teachers enhance their experiences regarding students to guide them in the direction of accomplishment of learning goals. Without feedback from teachers to students, this relationship cannot be considered as effective. Through teachers' feedback, students get natural motivation towards rewards and in this way they show better performance. Teacher student relationship resolves encounters, problems and difficulties regarding learning process (Jantine, Helma & Jochem, 2011).

In teaching learning process, feedback specificity is an important teaching aid for learning quality and encouragement of students (Parr & Timperley, 2010). Hyland & Hyland (2006), have argued that in classroom practices students want written comments on their learning tasks to know about their weaknesses, while Lee, 2005 argued that students want feedback comments in details i.e. writing errors, grammatical errors and content mistakes etc. However, Plonsky & Mills (2006), argued that there are different types of feedback used by teachers and students for the improvement of teaching learning process.

There are different types of feedback using in different situations (i.e. delayed, immediate, direct, specific reaction etc.). Furthermore, different kinds of feedbacks impact on teaching learning process in different ways. For changing the learning environment and mode of learning, feedback specificity is needed (Hattie and Timperley, 2007).

**Hypotheses of the Study**

The following hypotheses were articulated to investigate the objectives of the study.

i. There is no significant dissimilarity in the mean post-test academic self-efficacy score of students after receiving elaboration feedback and usual feedback while controlling for their pre-test self-efficacy score.

ii. There is no significant dissimilarity in the mean post-test academic self-efficacy score for high achiever and low achiever students after receiving elaboration feedback and usual feedback whereas controlling for their pre-test academic self-efficacy score.

iii. There is no interaction between ability and feedback on post-test score of academic self-efficacy while controlling for their pre-test academic self-efficacy score.

**Material and Methods**

The purpose of the present study was to measure the effectiveness of feedback specificity on academic self-efficacy of students at intermediate level (F.A part-II) in subject of education. Feedback specificity in the form of elaboration feedback was applied as an intervention on students of F.A Part-II and its effect was measured accordingly. Academic self-efficacy was quantitatively calculated by utilizing an adopted questionnaire "The Motivated Learning Strategies Questionnaire (MSLQ). Therefore, the study was experimental and quantitative in nature.

The present study was experimental in nature. In this study the effect of one independent variable (categorical) with two levels i.e. elaboration feedback and usual feedback was studied on two dependent variables (learning effort and academic self-efficacy. It was used to address all possible combinations of selected levels of one independent variable and two dependent variables.

2x2 factorial design was used. The factorial design was adopted as a research structure in which two or more independent variables were analyzed to examine their interactive effects on the dependent variable (Kerlinger & Lee, 2000).

The effect of elaboration feedback was analyzed on academic self-efficacy of students at intermediate level (F.A Part II) in subject of education. The feedback specificity was an independent variable (categorical) with two groups (i.e., the treatment and control group). The treatment group was taught with the help of elaboration feedback via: applying on students" attribute isolation, response contingent, hints and bugs form of elaboration feedback. The control group was taught by using usual feedback method. In the study academic self-efficacy of the students was dependent variable (continuous). Moreover, the achievement scores in subject of education obtained in F.A Part I (Higher Secondary School Certificate HSSC) was used as a grouping variable.

**Table 1**
**2x2 Factorial Design Showing F.A Part II students' Strength According to their Achievement Level**

| Groups (Achievement level) | Experimental Group (Feedback Specificity) | Control Group (Usual Feedback) | Total |
|---|---|---|---|
| High achiever | 08 | 08 | 16 |
| Low achiever | 16 | 16 | 32 |

| **Grand Total** | **24** | **24** | **48** |
|---|---|---|---|

Pretest and posttest were managed before and after the intervention of both groups to measure academic self-efficacy and learning effort in the subject of education. Pretest score of academic self-efficacy was used as a covariate for students' change in academic self-efficacy. Whereas the achievement scores in subject of education obtained in F.A Part-I, was used as a covariate for students' effort for learning in subject of education.

**Results and Discussion**

Ho1 There is no Significant Dissimilarity in the Mean Post-Test Academic Self-Efficacy Score of Students after Receiving Elaboration Feedback and Usual Feedback whereas controlling for their Pre-Test Academic Self-Efficacy Score.

**Table 2**
**Analysis of Co-Variance for Students' Mean Score on Academic Self-Efficacy after Receiving Elaboration Feedback and Usual Feedback although Controlling for their Pre-Test Mean Score on Academic Self-Efficacy.**

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Corrected Model | 16.908[a] | 2 | 8.454 | 112.303 | .000 | .833 |
| Intercept | 57.244 | 1 | 57.244 | 760.455 | .000 | .944 |
| Covariate Pre-Mean | 1.248 | 1 | 1.248 | 16.575 | .000 | .269 |
| Groups | 11.950 | 1 | 11.950 | 158.755 | .000 | .779 |
| Error | 3.387 | 45 | .075 | | | |
| Total | 1791.562 | 48 | | | | |
| Corrected Total | 20.295 | 47 | | | | |

Table 2 indicates that "there is no significant dissimilarity in the mean post-test academic self-efficacy score of students after receiving elaboration feedback and usual feedback although controlling for their pre-test self-efficacy score" was rejected, as F-value (1, 45) =158.755, p =.000 < α =0.05. Hence it is concluded that there is significant dissimilarity in mean score of students on academic self-efficacy after received elaboration feedback and usual feedback whereas controlling for their pre-test mean score on academic self-efficacy.

The analysis shows that there is a dissimilarity of small strength on students' post intervention academic self-efficacy (partial eta squared = .78) got though elaboration feedback and usual feedback while controlling for students' pre-intervention academic self-efficacy score (covariate). Moreover, a significant but moderate strength correlation was found between the students' pre-intervention academic self-efficacy (covariate) and post-intervention academic self-efficacy scores, as indicted by a partial eta squared value of .27.

**Table 3**
**Mean Score of Students' Academic Self-Efficacy**

| Groups | N | M | SD |
|---|---|---|---|
| Control Group (Usual Feedback) | 24 | 5.5 | 0.4 |
| Experimental Group (Elaboration Feedback) | 24 | 6.6 | 0.1 |

**Note. M =Mean and SD = Standard Deviation**

Table 3 shows the responses of students of control and experimental group two types of feedback, i.e., elaboration feedback and usual feedback. It indicates that elaboration feedback (M = 6.6; SD = 0.1) was more effective as compared to usual feedback (M = 5.5; SD = 0.4) for students in acquiring academic self-efficacy.

Ho2 There is no Significant Dissimilarity in the Mean Post-Test Academic Self-Efficacy Score for High Achiever and Low Achiever Students after Receiving Elaboration Feedback and Usual Feedback whereas controlling for their Pre-Test Academic Self-Efficacy Score.

**Table 4**
**Analysis of Co-Variance for Students' Mean Score on Academic Self-Efficacy for Higher Achiever and Low Achiever after Receiving Elaboration Feedback and Usual Feedback while Controlling for their Pre-Test Mean Score on Academic Self-Efficacy.**

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Corrected Model | 17.933[a] | 3 | 5.978 | 111.355 | .000 | .884 |
| Intercept | 25.289 | 1 | 25.289 | 471.102 | .000 | .915 |
| Covariate Pre-Mean | .032 | 1 | .032 | .604 | .441 | .014 |
| Levels | 1.025 | 1 | 1.025 | 19.103 | .000 | .303 |
| Groups | 12.829 | 1 | 12.829 | 238.986 | .000 | .845 |
| Error | 2.362 | 44 | .054 | | | |
| Total | 1791.562 | 48 | | | | |
| Corrected Total | 20.295 | 47 | | | | |

Table 4 indicates that "there is no significant dissimilarity in the mean post-test academic self-efficacy score for high achiever and low achiever students after receiving elaboration feedback and usual feedback whereas controlling for their pre-test academic self-efficacy score" was rejected as F-value (1, 44) =238.986, p =.000 < α =0.05. Therefore, it is concluded that there is a significant dissimilarity in mean score on academic self-efficacy of high achiever and low achievers students after receiving elaboration feedback and usual feedback while controlling for their pre-test academic self-efficacy score.

The analysis indicates that there is a dissimilarity of small strength on high achiever and low achievers students post intervention academic self-efficacy (partial eta squared = .85) after receiving elaboration feedback and usual feedback while controlling for their pre-test academic self-efficacy score obtained on (covariate). Furthermore, a significant but small strength correlation was found between the students' pre-intervention academic self-efficacy (covariate) and post-intervention academic self-efficacy scores, as indicated by a partial eta squared value of .014.

Ho3 There is no Interaction between Ability and Feedback on Post-Test Academic Self-Efficacy Score while controlling for their Pre-Test Academic Self-Efficacy Score.

**Table 5**
**Interaction Effect of Ability and Feedback on Post-Test Academic Self-Efficacy Score while Controlling for their Pre-Test Academic Self-Efficacy Score.**

| Source | Type III Sum of Squares | Df | Mean Square | F | Sig. | Partial Eta Squared |
|---|---|---|---|---|---|---|
| Corrected Model | 19.087[a] | 4 | 4.772 | 169.840 | .000 | .940 |
| Intercept | 23.418 | 1 | 23.418 | 833.529 | .000 | .951 |
| Covariate Pre-Mean | .001 | 1 | .001 | .039 | .844 | .001 |
| Groups | 8.810 | 1 | 8.810 | 313.589 | .000 | .879 |
| Ability | .788 | 1 | .788 | 28.044 | .000 | .395 |
| Groups * Ability | 1.154 | 1 | 1.154 | 41.070 | .000 | .489 |
| Error | 1.208 | 43 | .028 | | | |

| | | |
|---|---|---|
| Total | 1791.562 | 48 |
| Corrected Total | 20.295 | 47 |

Table 5 shows that a significant interaction effect on students' post- intervention academic self-efficacy score: F (1, 43) = 41.070, p < .000, with an effect size (partial eta squared = .49) was found. It indicates that students with different abilities performed differently after receiving elaboration feedback and usual feedback. Both of the main effects were significant, feedback method: F (1, 43) = 313.598, p = .000; ability level: F (1, 43) = 28.044, p = .000 after receiving elaboration feedback and usual feedback while controlling for students pre-intervention academic self-efficacy score obtained on the Motivated Strategies for Learning Questionnaire (covariate).

**Table 6**
**Effectiveness of Ability and Feedback on Students' Academic Self-Efficacy**

| Groups' Ability | Group | N | M | SD |
|---|---|---|---|---|
| Low Achievers | Control Group | 16 | 5.2 | 0.2 |
| | Experimental Group | 16 | 6.6 | 0.1 |
| High Achievers | Control Group | 08 | 6.0 | 0.1 |
| | Experimental Group | 08 | 6.7 | 0.1 |

Note. M =Mean and SD = Standard Deviation

Table 6 shows that the students with high and low abilities responded in a different way to the two types of feedback methods (elaboration feedback and usual feedback).

Elaboration feedback approaches remained more effective in attaining academic self-efficacy on high achiever students (M = 6.7; SD = 0.1). Whereas greater effect was found on low achiever students' academic self-efficacy (M = 6.6; SD = 0.1) after receiving elaboration feedback. Usual feedback effects moderately on high achiever students' academic self-efficacy (M = 6.0; SD = 0.1). Huge effect was found on low achiever students' academic self-efficacy (M = 5.2; SD = 0.2) after receiving usual feedback.

## Findings

I. Significant dissimilarity was found on students' academic self-efficacy after receiving usual feedback and elaboration feedback whereas controlling for their pre-test mean score on academic self-efficacy.

II. Significant variance was found in mean score on academic self-efficacy of high and low achiever students after receiving elaboration feedback and usual feedback even though controlling for their pre-test academic self-efficacy score.

III. Significant interaction effect on students' post- intervention learning academic self-efficacy: F (1, 43) = 41.070, p < .000, (partial eta squared = .49). It shows that students with dissimilar abilities accomplished differently after receiving elaboration feedback and usual feedback.

## Discussions

The study findings have been supported by Steele Johnson et al., (2000) that learning direction may be most crucial part early in the performance of a new work without elaborative feedback. When students have some preceding knowledge or elaborative feedback to guide learning tasks, the capacity of students high in learning tasks to involve in elaboration on learning tasks may guide to required learning behavior.

In another study, the researcher showed that different elaborative feedback strategies using by teachers have effects on students' academic self-efficacy. Different feedback strategies enabled the learners to understand their level of progress which is important for their self-efficacy. For the improvement in students' self-efficacy, it is the responsibility of the effective teachers to use different elaborative feedback strategies and make their teaching learning process more effective to enhance the students' self-efficacy (Joanne Chung-Yan & Chan Shuifong Lam, 2010).

Hattie and Timperley (2007) have indicated that feedback is a crucial skill for teachers in teaching learning process and has a key factor in the quality of the students' learning tasks. Another study supported that elaborative feedback with contains detailed information influence on the students' learning effort and self-efficacy level as well as on how to carry on in learning process (Wisniewski et al, 2020). As the teachers are openly asked to evaluate the excellence of students' learning tasks, they are clearly identify the prescribed learning objectives, assessment criteria and different possible solutions of the problem/task, which helps them to understand the learning requirements of specific learning (Andrade, 2010; Sadler, 2010).

## Conclusions

I. It is concluded that different types of elaboration feedback enhance high achiever and low achiever students' academic self-efficacy.

II. It is further determined that students with dissimilar abilities executed in a different way after receiving elaboration feedback and usual feedback.

## Recommendations

In the light of present study's findings and conclusions,

I. Curriculum developers at intermediate level may include the elaborative feedback strategies for the teaching of education and other subjects for students to enhance their academic self-efficacy and learning effort.

II. Heads of institutions (public and private) for intermediate level should include elaborative feedback strategies as part of the teaching learning process. Teaching learning process with elaborative feedback may be made mandatory for all subject teachers.

III. Teachers may use elaborative feedback strategies for the improvement of students' academic self-efficacy and learning effort at intermediate level.

IV. Boards of Intermediate and Secondary Education (BISEs), provincial assessment departments, organizations, and authorities may prepare test-developers teams to introduce elaborations feedback strategies in the examinations of all subjects.

V. The quality of textbooks, curriculum, pedagogy, andragogy, and different programs may be improved by using different types of elaboration feedback.

## Suggestions for Further Research

I. In-depth research may be conducted on the feedback specificity (i.e. elaboration feedback) for the teaching-learning process.

II. Research supervisors at universities may promote academic self-efficacy, learning effort of students and encourage their students to conduct research on different aspects of elaboration feedback.

III. It is further suggested that researches may be conducted on elaboration feedback and its linkage with assessment area.

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