Perceived Effectiveness of Feedback Strategies used By Junior Secondary School Agriculture Teachers

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Abstract

One of the major tasks of an effective teacher is the provision of specific and timely feedback to students. Unfortunately, there is paucity of studies on the effectiveness of feedback strategies used by agriculture teachers. Therefore, the purpose of the study was to determine the perceived effectiveness of feedback strategies used by Junior Secondary School Agriculture teachers. Specifically, the study sought to identify perceived feedback strategies, challenges encountered, and perceived effectiveness of the feedback strategies used by agriculture teachers. The study targeted Junior Secondary School Agriculture Teachers in Eswatini (n=180). A descriptive survey, employing a questionnaire in data collection was used. The questionnaire was validated by three experts from the Department of Agricultural Education and Extension at the University of Eswatini. Inter-item reliability was established using Cronbach's Alpha and was .80. Means, standard deviations, frequencies and percentages were used in data analysis. The findings of the study revealed that written feedback was the prominent feedback strategy used (M=5.21, SD=0.76); yet verbal feedback was considered the most effective strategy (M=5.11, SD=0.81). Therefore, the study concluded that verbal feedback is the most effective strategy. The study recommended that teachers should consider using verbal feedback more than written feedback as it is the most effective strategy. However, it was noted that teachers should consider giving feedback using virtual approaches as the world is migrating to online learning.

Keywords: Agriculture Teachers, Assessment, Feedback Strategies, Junior Secondary School, Perception, Verbal Feedback, Written Feedback

Provision of specific and timely feedback is one of the major tasks for a committed teacher to enhance students' academic achievement (Hattie, 2009). Feedback is the necessary knowledge or reply from a teacher, administrator, colleague, and parent regarding a student's performance or behaviour, in attempt to assist students understand their performance (Tang & Chow, 2007; Bennett, 2011). It involves providing information on aspects of understanding and performance about students (Hattie & Timperley, 2007). Teachers tell students, especially what is correct or wrong in their academic work. Feedback on work given can also include information about neatness or format. Feedback is more powerful when it corrects misunderstandings than when it alerts students of the information (Danielson & Felland, 2001). Danielson and Felland further asserted that feedback is a key component of incremental process of on-going learning and assessment; and is done to improve teaching and learning. It can be verbal, written or gestural (Tang & Chow, 2007).

Feedback reinforces what was done well; makes useful suggestions about specific ways students could improve their work; and corrects misapprehensions revealed in the work. It should be respectful of the individuality and worth of each student. It should come timely when it still matters to students and when the they can benefit from it. It enables students to perfect their capacity to use information and to judge themselves in relation to similar work (Black et al., 2003). Feedback is where future learning begins and without it, assessment purely states where students are at that point in time. Analysis of the assessment helps inform the required feedback; and therefore, the learning steps for the students to achieve their goals. Although not strictly assessment, feedback is an essential element in turning assessment into a future learning tool. It is an essential component of education and training programmes; as

it helps students to maximise their potential at different stages of learning, raise their awareness of strengths and weaknesses, and detect actions to be taken to improve performance (Gibbs & Simpson, 2004).

Feedback can make students adjust their actions accordingly; even small changes can have enormous growth, and impact on learning (Hattie, 2009). Effective and timely feedback assists students to assess their learning goals, and make necessary adjustments where necessary, for timely recovery regarding their aspirations (Arlington, 2002). Feedback provides valuable information on the performance of both the teacher and students (Ferguson, 2011). If feedback is used well, most students will know what to do to improve rather than feeling embarrassed in class (Danielson & Felland, 2001). It reveals loopholes in the execution of the tasks; and how improvements can be made.

Positive feedback is considered "positive reinforcement," while negative feedback is considered punishment (Hattie, 2009). Both reinforcement and punishment affect learning; thus, feedback is theorised to be influential (Thorndike, 2003). Hattie (2009) concluded that students have infrequently had explicit instruction or support on how to use feedback, particularly when it might oppose or challenge their own internal view of their performance. This observation leads to the conclusion that in order to improve the effectiveness of feedback, there is need to focus not only on improving the quality of the externally provided message, but also strengthening the self-evaluative capacity of students (Boud 2015; Yorke, 2003).

Feedback strategies used by teachers can either be verbal or written. Verbal feedback involves teachers engaging and interacting more with their students at both one-on-one [face to face] and whole class level (Starr, 2017). It refers to personal consultation between a teacher and student during the evaluation of a task. Verbal feedback can be done to an individual student, group or class; but it can also take other forms, such as oral conferencing and audio voice notes. Students are expected to take notes as they receive feedback. Verbal feedback dictates that the teacher sets aside sufficient time for clarification purposes. The time required can be even more in face-to-face meetings with individual students in the event the class is large. The challenge of verbal feedback is making it sounds sincere rather than mechanical (Siewert, 2011).

Written feedback involves descriptive comments, corrections or marks on the student's work (Ellis, 2009). The comments can be words or quick symbols; such as underlining, circling, and other signs. The written feedback should be in a language which will be understandable to students. It must provide precise guidance on how to improve learning outcomes; and enable students to refer back as the task is being completed. Written feedback does not merely correct students' errors on exercise books; but actively requires them to reconsider their work; and think about why for instance, spelling and punctuation may be incorrect (Shute, 2008). According to Binu (2020), written comments often provide specific feedback unique to each student; and can be in the form of an overall comment on the task or comments that address each criterion separately. Binu further asserted that feedback should start by highlighting strengths; suggestions on elements to improve or how it is good; and using student's name as part of the comments to give powerful outcome. Similarly, Black, et al. (2003) argued that feedback should end on a note of encouragement in order to motivate the student. The authors observed that although feedback is important in the teaching and learning process, literature is silent on the feeedback strategies used by teachers. Thus, a need exist to study the effectiveness of feedback strategies used by agriculture teachers.

Purpose and Objectives

The purpose of the study was to assess the perceived effectiveness of feedback strategies used by Junior Secondary School Agriculture Teachers.

The objectives of the study were to:

1. identify perceived feedback strategies used by Junior Secondary School Agriculture Teachers;
2. identify perceived effects of feedback strategies on agriculture students;
3. determine level of perceived effectiveness of the feedback strategies used;
4. identify challenges faced by Junior Secondary School Agriculture Teachers in providing feedback to their students;
5. determine ways used by Junior Secondary School Agriculture Teachers to give meaningful feedback to agriculture students; and
6. compare level of perceived effectiveness of feedback strategies to demographic characteristics and background information of Junior Secondary Agriculture Teachers.

Research Hypotheses

The study sought to test the following hypotheses:

Hypothesis 1

A significant difference exists in the level of effectiveness on the perceived feedback strategies used by Junior Secondary School Agriculture Teachers by gender.

Hypothesis 2

A significant difference exists in the level of effectiveness on the perceived feedback strategies used by Junior Secondary School Agriculture Teachers by age.

Hypothesis 3

A significant difference exists in the level of effectiveness on the perceived feedback strategies used by Junior Secondary School Agriculture Teachers by teaching experience.

Hypothesis 4

A significant difference exists in the level of effectiveness on the perceived feedback strategies used by Junior Secondary School Agriculture Teachers by class size.

Methods

The design of study was descriptive research; targeting agriculture teachers (N=363) in Junior Secondary Schools in Eswatini. The population frame was established with the assistance of the Senior Inspector for Agriculture in Eswatini. Simple random sampling was used to draw a sample of 180 agriculture teachers from the target population. A questionnaire was developed from literature; and used for data collection. The questionnaire was divided into six sections, namely; demographic characteristics, perceived feedback strategies, level of perceived effectiveness of each feedback strategy, perceived effects of feedback, challenges encountered while giving feedback, and ways used to give effective feedback. A six-point Likert-type scale, with the following ranges: 1= Strongly Disagree; 2= Disagree; 3= Slightly Disagree; 4= Slightly Agree; 5=Agree; and 6=Strongly Agree was used to measure the strategies used by the teachers to provide feedback to the students, perceived effects of feedback, challenges encountered while giving feedback, and ways used to give effective feedback. The level of perceived effectiveness of each feedback strategy was measured using the following six-point numerical scale: 1= Highly Ineffective, 2= Ineffective, 3= Slightly Ineffective, 4= Slightly Effective, 5= Effective, And 6= Strongly Effective. The respondents were required to circle or fill in the blanks for demographic characteristics and background information. The questionnaire was validated by three experts from the Department of Agricultural Education and Extension at the University of Eswatini; and their comments were incorporated to enhance the content and face validity. Thirty students (n=30), who were not involved in the study were used for pilot-testing the study in order to establish the reliability and suitability of the instrument. Inter-item reliability of the questionnaire was determined using Cronbach's Alpha in Statistical Package of Social Sciences [SPSS] version 20; and the reliability coefficient was r=.80.

Letters seeking permission to conduct the study were written to the Director of Education in the Ministry of Education and Training, school principals and the respondents in Eswatini; and permission was granted. The respondents were required to fill and sign a Consent Form. Copies of the questionnaires were hand delivered by the researchers to the agriculture teachers and they were given a fortnight to complete the questionnaires. To ensure confidentiality, the questionnaire was formulated such that respondents' names were concealed. The respondents were reminded two days before the questionnaires were collected. The questionnaires with responses were only accessible to the researchers. Descriptive statistics in the Statistical Package for Social Sciences (SPSS) version 20 were used for data analysis.

Results and Discussions

Demographic Characteristics and Background Information of Respondents

Table 1 presents the demographic characteristics and background information of respondents in terms of sex, age, teaching experience, and class size. The findings of the study depict that there were more female (n=91, 50.6%) than male respondents (n=89, 49.4%). Although the study focused on Junior Secondary School Agriculture Teachers, the findings revealed that the agriculture departments in the schools were no longer dominated by male teachers as per the norm. This implies that females are now considering agriculture as a career. The study also revealed that a majority of the teachers were aged between 31 and 40 years (n=72, 40%); 35% aged between 41 and 50 years (n=63); 18.3% aged between 20 and 30 years (n=33); and only 6.7% were more than 50 years old (n=12). The findings imply that teachers at Junior Secondary level were generally young. The findings also indicate that a majority of the agriculture teachers (n=133, 73.8%) had taught for more than 10 years. Only 26.2% of the respondents had taught for less than 10 years. Finally, the number of students per class taught by each of the teachers were acceptable (n=91, 50.6%); since most of them had 20-40 students per class. This class size is acceptable as it meets the teacher-pupil ratio in Eswatini which is 1:40 (Ministry of Education, 1978).

Perceived Feedback Strategies Used by Junior Secondary Agriculture Teachers

Table 2 presents the perceived feedback strategies used by Junior Secondary School Agriculture Teachers in Eswatini. The findings revealed that the predominantly used feedback strategies were: written feedback in words on students' scripts or exercise books (M = 5.21, SD = 0.76), one-on-one meetings with students (M = 5.16, SD = 1.06), peer presentations (M = 5.05, SD = 1.04), rewards (M = 4.96, SD =1.20), and use of quick symbols such as underlining students' responses (M = 4.95, SD = 0.95). The findings of the study are consistent with existing literature. For instance, Ellis (2009) concluded that written feedback was the dominant strategy used by teachers. This feedback includes written descriptive comments, corrections or marks given to students' written work (Casey, 2010). Casey further revealed that the written feedback can either be in words or quick symbols, such as underlining, circling, and other signs. Written feedback should highlight the student's strength and areas of improvement (Bitchener, 2008). One-on-one meeting was also identified as another prominent feedback strategy. Dinham (2006) argued that this strategy helps students have constant attention as they can listen attentively. The findings are also consistent with Barton (2016), who stated that one-on-one meetings deliver meaningful, personalised feedback; strengthen the relationship between student and teacher; lower stressful environment; free students from the fear of failure; and also give students an opportunity to step up - not to rely on others. It is effective in the sense that when used appropriately;

Table 1

Demographic characteristics and background information of respondents (n=180)

Demographic characteristics and background information	f	%
Sex		
Male	89	49.4
Female	91	50.5
Teaching Experience		
0 -10 years	47	26.1
11-15 years	43	23.9
16 – 20 years	39	21.7
Above 20 years	51	28.3
Class size		
Less than 20 students	22	12.2
20 – 40 students	92	51.0
Above 40 students	66	36.7
Age		
20 – 30 years	32	17,.8
31 – 40 years	72	40
41 – 50 years	63	35
51 – 60 years	13	7.2

Table 2

Feedback Strategies used by Junior Secondary school Agriculture Teachers (n=180)

Feedback strategy	M	SD	Decision
Use words written on script or exercise books	5.21	0.76	Agree
Use one-on-one meetings with each student	5.16	1.06	Agree
Use of peer presentation	5.05	1.04	Agree
Reward students after marking tests, assignments or class works	4.96	1.20	Agree
Use quick symbols such as underlining on student responses	4.95	0.95	Agree
Providing specific feedback to task given	4.88	0.94	Agree
Give written feedback in form of score only on student work	4.88	1.17	Agree
Give timely feedback	4.85	1.13	Agree
Use of verbal feedback by teachers	4.81	1.12	Agree
Return students' work at the beginning of class	4.81	1.21	Agree
Provide students with audio or video recordings	4.64	1.36	Agree
Taking students on a field trip	4.59	1.39	Agree
Alternate due dates for returning feedback to students	4.53	1.30	Agree
Overall	**4.87**	**1.13**	**Agree**

Rating scale: 1= Strongly Disagree (SD) 2= Disagree (D) 3= Slightly Disagree (SLD) 4= Slightly Agree (SLA) 5= Agree (A) 6= Strongly Agree (SA)
Cut off point: <3.5 – disagree and ≥ 3.5 - agree

it has the potential to personalise conversations and assignments.

Level of perceived effectiveness of feedback strategies used by Junior Secondary school Agriculture Teachers

Table 3 presents the level of perceived effectiveness of feedback strategies used by Junior Secondary school Agriculture Teachers. The most effective strategies used by the teachers were: verbal feedback to students (M=5.11, SD=0.81), one-on-one meetings (M=5.10, SD=1.02), written comments on students' scripts (M=5.07, SD=1.03), giving feedback specific to task (M=4.99 SD=.925), providing timely feedback (M=4.90, SD= 1.02), underlining students' work (M=4.73,SD=1.24), use of audio or video recordings (M=4.72, SD =1.22), returning test papers at the beginning of lesson (M=4.72, SD=1.28), and giving rewards to the students (M= 4.70, SD= 1.29. Although verbal feedback was rarely used than written feedback, it was cited as the most effective feedback strategy. The findings are consistent with McMillan and Cauley (2010), who argued that verbal feedback was the most effective strategy; because it is often given during teaching and learning; and enables students to trace, or quickly follow the learning process or understand the task. It offers more opportunities for dialogue between the teacher and the student; ensuring that they understand the feedback; thus, enabling them to respond to or act on the feedback.

Perceived Effects of Feedback on Students

Table 4 presents the perceived effects of feedback strategies on students. The findings revealed that feedback improves students' performance (M=5.16, SD=1.11), praising student does not improve students' achievement (M=5.15, SD=0.93), positive feedback improves dedication to work (M=5.14, SD=1.08), feedback enhances student's efficacy (M=5.07, SD=1.06), and the complexity of feedback leads to confusion (M=5.06, SD=1.18). The findings of the study that feedback improves students' academic performance are consistent with those by Butler (2016), who concluded that providing timely, specific and actionable feedback is an instructional tool that helps students learn and improve performance. Brown (2016) argued that feedback improves student's self- efficacy; and reinforces what was done well, and also make useful suggestions about specific ways students could improve their work. It enables students to perfect their capacity to use information; and to judge themselves in relation to similar work (Black et al., 2003). Feedback can make students adjust their action accordingly (Hattie, 2009); and if used well, most students will know what to do to improve as it reveals loopholes in the execution of the tasks (Danielson & Felland, 2001).

Challenges Faced by Junior Secondary School Agriculture Teachers

Table 5 presents the challenges faced by the teachers in providing feedback to the students. The findings revealed that large numbers of students per class (M=5.16, SD=1.05), increased work load (M=5.15, SD=0.88), supervising teaching experience (M=5.08, SD=1.01), lack of subject content knowledge (M=5.08, SD=1.00), and inadequate time to teach and assess (M=5.02, SD=0.98), were the prominent challenges faced by the teachers in giving feedback. Literature also reveals that class enrollment and work load were challenges encounered by teachers in giving feedback to students. Gibbs and Simpson (2004) argued that larger numbers of students in class increase the workload for teachers; and force some teachers to give less effective feedback. Due to increased volume of marking and teachers' loads, feedback is often provided too slowly, and lacking in the necessary quality to be effective. Teachers with heavy workloads have less time to write comments on students' work and there are fewer opportunities for tutorial interactions between teachers and students (Yorke, 2003).

Ways of Giving Meaningful Feedback to Agriculture Students

Table 6 presents ways of giving meaningful feedback to students. The prominent ways of giving meaningful feedback to students were: discussing complex feedback (M=5.79, SD=1.38), use of resource person where needed (M=5.32, SD=0.94), attending to students consistently (M=5.23, SD=0.95), giving clear feedback to students (M=5.21, SD=1.04), allowing students participation (M=5.13, SD=1.08), and reducing time taken to bring back feedback (M=5.03, SD=0.98). The findings are consistent with literature that teachers must provide clear feedback. Dweck (2019) argued that clear feedback should be descriptive and constructive; but not judgmental, while providing suggestions for improvement. Clear feedback becomes effective when it contains comments about strengths and weaknesses of the work; and personal comments should be avoided; because they do not offer any help for improving learning. According to Brookhart (2006), establishing clear learning targets and criteria assists students in understanding the feedback.

Comparison on the perceived level of effectiveness for feedback strategies with demographic characteristics and background information of Junior Secondary School Agriculture Teachers

Table 7 presents comparison on the perceived effectiveness of feedback strategies with demographic characteristics and background information of Junior Secondary Agriculture Teachers. The demographic characteristics and background information of respondents used were sex, age, teaching experience, and class size. An independent t-test was used to determine if there was a significant difference between the perceived level of effectiveness for feedback strategies by sex of the Junior

PERCEIVED EFFECTIVENESS OF FEEDBACK STRATEGIES

Table 3

Level of Effectiveness on the feedback strategies (n=180)

Strategy	M	SD	Decision
Providing verbal feedback by teachers	5.11	0.81	Agree
Using one-on-one with each student	5.10	1.02	Agree
Comments written in words on students' work	5.07	1.03	Agree
Returning specific feedback	4.99	0.92	Agree
Providing timely feedback	4.90	1.02	Agree
Comments written in form of underlining students' work	4.73	1.24	Agree
Use audio or video recordings	4.72	1.22	Agree
Returning test papers or comments cards beginning of class	4.72	1.28	Agree
Rewarding students after marking tests, class works or assignments	4.70	1.28	Agree
Taking students on field trips	4.49	1.48	Agree
Alternating due dates for returning student's work	4.48	1.35	Agree
Giving written feedback in form of scores only	4.46	1.21	Agree
Use of peer presentations as form of giving feedback	4.41	1.67	Agree
Overall	**4.78**	**1.20**	**Agree**

Rating Scale: 1=Highly Ineffective (HI), 2= Ineffective (I), 3= Slightly Ineffective (SI), 4= Slightly Effective (SE), 5= Effective (E), 6=Highly Effective (HE)
Cut off point: 0.01-1.44 [1]=Highly Ineffective, 1.45-2.44[2]=Ineffective, 2.45-3.44[3] Slightly Ineffective, 3.45-4.44[4]=Slightly Effective, 4.45-5.44[5]=Effective, 5.45-6.00=Highly Effective

Table 4

Perceived effects of feedback on students (n=180)

Feedback	M	SD	Decision
Feedback improves students' performance	5.16	1.11	Agree
Praising students does not improve students' achievement	5.15	0.93	Agree
Positive feedback improves dedication to work	5.14	1.08	Agree
Feedback enhances student's efficacy	5.07	1.06	Agree
Praise promotes student dedication	5.06	0.98	Agree
Complexity of feedback leads to confusion	5.00	1.18	Agree
Individual feedback promotes motivation	4.94	1.13	Agree
Feedback improves confidence	4.84	1.16	Agree
Feedback promotes self-regulatory skills	4.82	1.01	Agree
Negative feedback discourages students from doing better	4.81	1.38	Agree
Overall	**5.16**	**1.12**	**Agree**

Rating scale: 1= Strongly Disagree (SD) 2= Disagree (D) 3= Slightly Disagree (SLD) 4= Slightly Agree (SLA) 5= Agree (A) 6= Strongly Agree (SA)
Cut off point: <3.5 – disagree and ≥ 3.5 - agree

Table 5

Challenges faced by Junior Secondary school Agriculture Teachers (n=180)

Challenges	M	SD	Decision
Large numbers of students per class	5.16	1.05	Agree
Increased work load	5.15	0.88	Agree
Supervising Teaching experience	5.08	1.01	Agree
Lack of subject matter	5.08	1.00	Agree
Time to teach and assess is not enough	5.02	0.98	Agree
Lack of motivation	4.91	1.03	Agree
Problems outside work environment	4.83	1.24	Agree
Teaching more than one subject	4.76	1.39	Agree
Extra-curricular engagements delayed marking	4.38	1.36	Agree
Stagnant salary causes impatience when giving feedback	4.33	1.77	Agree
Overall	**4.92**	**1.16**	**Agree**

Rating scale: 1= Strongly Disagree (SD) 2= Disagree (D) 3= Slightly Disagree (SLD) 4= Slightly Agree (SLA) 5= Agree (A) 6= Strongly Agree (SA)
Cut off point: <3.5 – disagree and ≥ 3.5 - agree

Table 6

Ways of giving Meaningful Feedback (n=180)

Ways of giving feedback	M	SD	Decision
Discuss complex feedback	5.79	1.38	Agree
Use of resource person where needed	5.32	0.94	Agree
Attending to students consistently	5.23	0.95	Agree
Giving clear feedback	5.21	1.04	Agree
Allowing students involvement or participation	5.13	1.08	Agree
Reducing time taken to bring back feedback	5.03	0.98	Agree
Overall	**5.12**	**1.07**	**Agree**

Rating scale: 1= Strongly Disagree (SD) 2= Disagree (D) 3= Slightly Disagree (SLD) 4= Slightly Agree (SLA) 5= Agree (A) 6= Strongly Agree (SA)
Cut off point: <3.5 – disagree and ≥ 3.5 - agree

Secondary Agriculture Teachers. The findings revealed that there was a significant difference between the male and female teachers when giving written feedback in the form words (t=2.28, p=.02). Female teachers (M=4.86) were giving feedback by writing words more effectively than their counter-parts (M=4.45). Effect size was calculated using Cohen's formula in order to determine the practical difference (magnitude) on giving written feedback between female and male teachers. The findings of the study revealed a small effect size (d = .53). The higher the effect size: the greater the practical value on the magnitude between the female and male to give written feedback to students. According to Cohen (1988), a large effect size is one that has a value of d = .80 and above; medium effect size (d) between .50 and .79; while small effect size has d value of .49 and below. This implies that the difference between male and female students on providing feedback to student had a medium effect.

Formula A

The formula used for calculating effect size is as follows:

$$d = \text{Mean1} - \text{Mean2} / \text{SD pooled}$$

Where

d = effect size

Mean_1 = mean of female students

Mean_2 = mean of male students

SD_1^2 = standard deviation for mean of female students

SD_2^2 = standard deviation for mean of male students

$SD_{pooled} = \sqrt{[(SD12 + SD22)/2]}$ = square root of the standard deviations divided by two.

$SD_{pooled} = \sqrt{[(1.14 + 1.26)/2]}$

$= 0.77$

$d = 4.86 - 4.45 / 0.77$

$= 0.53$

Feedback strategy	Sex		Age		Teaching Experience		Class Size	
	t-value	p	F-value	p	F-value	p	F-value	p
Providing verbal feedback	0.16	.87	0.39	.76	1.52	.21	1.79	.17
Using one on one with each student	0.86	.39	1.12	.34	0.72	.54	1.50	.22
Use audio or video recordings	1.25	.21	1.72	.16	0.70	.55	3.41	.04*
Providing timely feedback	-0.71	.48	1.57	.20	3.57	.02*	2.02	.14
Returning specific feedback	-0.72	.47	2.27	.08	2.79	.04*	1.10	.34
Returning test papers or comments cards beginning of class	0.44	.66	1.60	.19	4.17	.01*	0.29	.75
Rewarding students after marking test, classwork or assignment	1.07	.29	0.44	.73	1.16	.33	4.06	.02*
Giving written feedback in a form of words written as comments	2.28	.02*	0.83	.48	0.27	.85	0.35	.71
Alternating due dates for returning students' work	0.83	.41	1.38	.25	0.73	.53	0.34	.71
Giving written feedback form of scores only in form of words on students' work	-1.10	.27	0.88	.45	0.27	.85	0.80	.45
Comments written in form of underlining students' work	0.15	.88	0.08	.97	0.29	.83	1.70	.19
Take students on field trips	-1.36	.18	1.43	.24	0.27	.84	0.39	.68
Using peer presentation as form of giving feedback	0.94	.35	1.16	.33	1.78	.15	0.18	.84

Note: Alpha Level: ≤.05 * Significant different

Furthermore, One-Way Analysis of Variance [ANOVA] was used to determine if there was a significant difference between the perceived level of effectiveness on feedback strategies by age; teaching experience and the class size taught by the Junior Secondary School Agriculture Teachers. Significant differences on perceived feedback strategies used by the agriculture teachers existed on the teaching experience and class size. There was no significant difference of the perceived effective feedback strategies in-terms of age of the teachers. The findings revealed that significant differences existed between the teaching experience and perceived feedback strategies on the following items: providing timely feedback (F=3.57, p=.02); returning specific feedback (F=2.79, p=.04); and returning test papers or comments on cards at the beginning of class (F=4.17, p=.01). Finally, the findings revealed that there was a significant difference between the class size and feedback strategies using audio or video recordings (F=3.41, p=.04) and rewarding students after marking test, classwork or assignment (F=4.06, p=.02). Post hoc analysis using Tukey was employed to establish the groups that were similar or different. With regard to the differences due to the teaching experience on the use of audio or video recordings as feedback strategy, teachers who had 20 to 40 pupils per class were similar (p=.03) while the class size with less than 20 pupils per class was different from the other categories of class sizes. Noteworthy was teachers having 0 -10 years teaching experience were similar to those with 11-15 years teaching experience (p=.02); but this teachers' experience category was different from those who had taught for 16 – 20 years and those who had taught for more than 20 years. The Post hoc analysis could not establish the teaching experience groupings regarding the returning of specific feedback. Finally, the Post hoc analysis established that teachers with 0 – 10 years teaching experience were similar to those with 11 – 15 years but different from those who had taught for 16 – 20 years, as well as those with more than 20 years teaching experience.

Therefore, regarding the research hypotheses the study accepted three of the four hypotheses. Firstly, the study accepted the hypothesis that there is a significant difference that exists in the level of effectiveness on the perceived feedback strategies used by the Agriculture Teachers by sex. Female teachers were reported to be more effective in providing written feedback than male agriculture teachers. Secondly, the study accepted the hypothesis that there is a significant difference exists in the level of effectiveness on the perceived feedback strategies used by the Agriculture Teachers by teaching experience. Most experienced agriculture teachers were more effective in providing feedback that is timely and has specific comments than the inexperience agriculture teachers. Finally, the study accepted the hypothesis that there is a significant difference exists in the level of effectiveness on the perceived feedback strategies used by the Agriculture Teachers by class size. The findings of the study revealed that the agriculture teachers perceived that providing feedback is more effective in small classes than large classes. However, the hypothesis that there was significant difference that exists in the level of effectiveness on the perceived feedback strategies used

by the Agriculture Teachers by age was rejected. It implies that the age of the agriculture teacher does not influence the effectiveness of feedback provided to the agriculture learners.

The findings of the study indicate that providing feedback to a small class is different from giving it to a large class size. The findings of the study are consistent with the existing literature. In terms of class size, Pedder (2006) reported that teachers are more effective in smaller classes due to the increased opportunities for individual student feedback and more individualized student attention. Black et al. (2003) concluded that the provision of feedback should also be timely so that the student can benefit from it as it will be fresh in their minds. The effectiveness of giving feedback is also associated with teaching experience. Kini and Podolsky (2016) observed that as teachers gain experience, their students do not only learn more, but also are more likely to do better on other measures of success that include giving effective feedback.

Summary

The findings of the study reveal that the predominantly perceived feedback strategies used by Junior Secondary School Agriculture Teachers were written feedback, and one-on-one meetings with students. However, the strategies perceived most effective used by the teachers were verbal feedback to students and one-on-one meetings. The findings further revealed that effects of feedback on students were: positive feedback improves students' performance, positive feedback improves dedication to work, positive feedback enhances student's efficacy, praising student does not improve students' achievement, and the complexity of feedback leads to confusion. The agriculture teachers were faced with the following challenges in giving feedback: large numbers of students per class, increased work load, supervising teaching experience, and lack of subject content knowledge. The findings revealed the following ways of giving meaningful feedback to students: discussing complex feedback, using resource person where needed, attending to students consistently, giving clear feedback to students, allowing students participation when giving feedback, and reducing time taken to bring back feedback.

Based on the findings of the study, it was concluded that several feedback strategies were used by the agriculture teachers for different assessments. Although written feedback strategy was the most commonly used; verbal feedback was considered to be the most effective strategy employed by the Junior Secondary School Agriculture Teachers. The study also concluded that although technology allows for virtual feedback, one-on-one or face to face meetings were still considered to be most effective than virtual means of giving feedback such as voice notes. Feedback strategies contributed to improving the academic performance of the students. Although the teachers were using feedback during the teaching and learning process; they faced some challenges that were beyond their control; as there were policy issues such as class size and work load. It can be observed that the feedback is more effective in small class size and experienced teachers are more effective than inexperience teachers. Female teachers tend to be more effective than male teachers on giving written feedback to the learners.

Based on the findings and conclusions of the study, it was recommended that:

1. teachers should consider using verbal feedback more than written feedback as it is the most effective;
2. since the education delivery mode is moving towards online learning; it is imperative for teachers to consider ways in which the teachers can give effective feedback virtually;
3. since teacher presence matters in giving the feedback, the teachers should use the different strategies for ensuring teacher presence during online teaching when giving feedback;
4. teacher training institutions should ensure that they assist student teachers on the use of effective feedback strategies;
5. the government should adhere to the teacher-pupil ratio of 1:40 to enhance the provision of feedback and encourage the utilization of one-on-one meetings when giving feedback;
6. and lastly, since teachers with many years of teaching experience are more effective in giving feedback than their counterparts; a need exist to continuously assist novice teachers on improving feedback strategies.

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