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## Paper title: Functional significance of feedback in learning

**Abstract:**

Feedback is important to learning because, if used appropriately, it facilitates learning. There are at least three levels of functional significance of feedback, namely, motivational, evaluative, and learning. This paper presents an investigation into the types of feedback school teachers use and how they relate to the three different levels functional significance of feedback. Two studies were conducted with the first one aiming at gaining some preliminary understanding of the types of feedback teachers used more frequently for their everyday teaching. Questionnaire survey was used as the sole research method for this first study, involving 591 school teachers in Hong Kong. The second study used two research methods – teacher interviews and lesson observation. Forty-seven teachers were interviewed to draw upon their use of feedback for teaching. Amongst these teachers, 27 were observed in class with the purpose of achieving a deeper understanding of how feedback was used in classroom situations. It was found that teachers did use feedback to help students learn and that teachers tended to use feedback more for motivational function.

Key words: assessment, feedback, learning

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# Functional significance of feedback in learning

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## Introduction

Feedback has been well recognised as an important aspect for assisting students to learn. It informs students about their actual performance level, which is subsequently used to help raise student standards. Feedback can be found in various contexts, but mainly occurs through: teachers' comments on individuals' performance on tasks during the class; working together in a practical setting such as a workshop, laboratory or field trip; marks and written comments on homework and assignments; individual or small-group tutoring or supervision; or marks and comments on assessed work and exams (Squires, 2004, p.40). To be effective, feedback should be meaningful to, understandable to, and acted upon by students (Orsmond, Merry & Reiling, 2005). Despite its usefulness to students' learning, there is variability of feedback in terms of the forms, which results in different quality of feedback and thus affects students' learning in various ways. Feedback can serve different functions, varying from playing a motivational role to helping students to achieve deep learning. If we are to assist students to learn well, we need to understand the various types of feedback and their related functional significance to learning.

This paper reports on an investigation into the functional significance of feedback in learning. It identifies the types of feedback which teachers use and discusses the functional significance of them in relation to student learning. The investigation collected data from school teachers through two studies. The first study, which was a questionnaire survey, aimed at achieving an initial understanding of how teachers use feedback in their everyday teaching. The study invited 591 school teachers in Hong Kong to indicate how frequently they used the eight types of feedback adapted from the QCA Assessment for Learning Project (2000) questionnaire. Data analysis showed that teachers tended to link feedback more to its motivational function. To achieve a deeper understanding of the way feedback is used by teachers, a second study was conducted. The second study involved 47 teachers being interviewed with 27 of them having their lessons observed. In the interviews, the teachers were asked to talk about how they used feedback in their everyday teaching. The lesson

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observations helped provide a closer understanding of what had been revealed in the interviews.

**Functional significance of feedback**

Brookhart (2004, p.43) says that the function of feedback to students is extremely complicated because feedback plays a role in motivation to learn and also a role in learning itself. In the following section, the functional significance of feedback is discussed under three broad levels of significance, namely, motivational, evaluative, and learning.

Motivational level of functional significance

Good grades or marks, positive comments, and rewards serve reasonably well in providing incentive for students to repeat the actions that led to the good results. Cowie's study (2005) showed that students felt happy about receiving positive comments and therefore carried on doing what they had done to obtain the same good feeling once again. Being aware of this effect, many teachers like to give students a little reward for their good work. They sometimes give out a lovely chop, a sticker, or a little prize. Comments to the students can be as simple as 'Excellent' and 'Well done' or of those with some personal touch such as 'Well done, you're really smart.' Some comments are for effort acknowledgement, for example, 'Hard work shown.'

Burnett (2002) says that speaking in a positive way or acknowledging efforts may indirectly help students learning. Burnett's study (2002) found that students who frequently got these sorts of feedback tended to have more satisfaction with the classroom environment and have a more positive relationship with the teacher. Having said that, Schunk (2003) warns that these kinds of feedback, if used inappropriately, could be damaging to student learning. Just think of the following two scenarios – (1) a student receives positive effort feedback but actually has put very little effort into his/her work. (2) a student receives negative effort feedback but has put tremendous effort into his / her work. Both cases can generate de-motivating effect. A general comment about this kind of feedback is that they are unhelpful to student learning because they do not specify what they have done well and what they need to work on (Chappuis and Stiggins 2001).

Evaluative level of functional significance

This level is represented by giving a grade or marks to indicate the different performance of students' work so that they know where they stand when compared

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with their fellow students. A letter grade or a % can give students a rough idea about their performance. It is a simple and less time consuming method of feedback. As with the motivational level, the evaluative level is considered as unhelpful for improving the learning process, as there is not enough information provided to students on what they need to work on (Smith & Gorard, 2005). For the low achievers, the effect could be even detrimental. It is because giving a bad grade without explaining why to students might harm the self-esteem of the low achievers and might bring the students into a failure cycle (Black, et. al. 2004, Aitken, 1999). This does not help the high achievers either because they would not know which particular part/s in their work is/are good. With more information provided, students will be able develop further from where they are or at least maintain similar standards in their next piece of work.

Learning level of functional significance

Feedback could be in the form that provides the students wtih information on how to improve their learning. This type of feedback focused on telling students their achievements relative to the defined learning targets, explaining to students why certain work was good and providing suggestions on how they can make improvement (Chappuis & Stiggins, 2001). This type of feedback is highly recommended among the scholars. Not only can it provide guidance for students to improve, but it can also bring students into active engagement in their learning, through involving students to think and to make their own decision with the suggestions given (Cowie, 2005; Black, et. al. 2004). To make this type of feedback visible to students, it has to be written in a positive way (Hyatt, 2005). Negative statement could harm the teacher-and-student relations (Cowie, 2005; Burnett, 2002), which might impact negatively on students learning. Students would perceive themselves as incapable learners and might lose confidence in learning.

The investigation to be reported in this paper aimed to identify the types of feedback which teachers use and discusses the functional significance of them in relation to student learning. Two studies were conducted with the first one being questionnaire survey and the second study using teacher interview and lesson observation as the research methods.

**The two studies**

The first study involved 591 teachers from 17 schools in Hong Kong completing a questionnaire in which they indicated how frequently they gave feedback in their

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everyday teaching. The second study aimed at achieving a deeper understanding of how feedback was used in the classroom. Teacher interview and lesson observation were used as the research methods. Forty-seven teachers were invited to talk about how they provided feedback to their students. Twenty-seven of these teachers had their lessons observed, allowing a closer examination of how teachers provided feedback in the classroom environment.

## The first study: questionnaire survey

This study aimed at gaining an initial understanding of how teachers used feedback in their everyday teaching. Questionnaire survey was used for the data collection. The questionnaire required the teachers to respond to eight feedback statements adapted from the QCA Assessment for Learning Project (2000) questionnaire. This used a 5-point Likert scale being: always, frequently, sometimes, rarely, and never. The results for "always" and "frequently" were combined to get an overview of the positive values of the teachers.

The eight QCA feedback statements:
1. Giving rewards only when achievement is satisfactory for that pupil (with specific comments referring to pupils' success).
2. Expressing approval when achievement is satisfactory.
3. Making a conscious decision to avoid saying a pupil is wrong.
4. Telling pupils what they have achieved with specific reference to their learning.
5. Telling pupils what they have not achieved with specific reference to their learning.
6. Describe why an answer is correct.
7. Specifying a better/different way of doing something.
8. Writing an evaluation note on a pupils' work.

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Table 1: Questionnaire survey: teachers' feedback use

| Statement | | % | In order of frequency |
|---|---|---|---|
| No.2 | Expressing approval when achievement is satisfactory. | 90.2% | 1 |
| No.6 | Describe why an answer is correct. | 78.7% | 2 |
| No.1 | Giving rewards only when achievement is satisfactory for that pupil (with specific comments referring to pupils' success). | 74.4% | 3 |
| No.7 | Specifying a better/different way of doing something. | 65.9% | 4 |
| No.8 | Writing an evaluation note on a pupils' work | 52.7% | 5 |
| No.4 | Telling pupils what they have achieved with specific reference to their learning | 44.3% | 6 |
| No.3 | Making a conscious decision to avoid saying a pupil is wrong. | 43.6% | 7 |
| No.5 | Telling pupils what they have not achieved with specific reference to their learning. | 40.4% | 8 |

The data analysis revealed that teachers were very keen on showing approval or giving praise to students for their satisfactory achievement (90.2% of the teachers involved in the study). Giving rewards was also chosen to use by many teachers (78.7%). The teachers did not seem to favour telling students why an answer was wrong (40.4%) and what they had achieved (44.3%), or write an evaluation note on a pupils' work (52.%). Comparatively smaller number of teachers would make a conscious decision to avoid saying a pupil was wrong (43.6%). The findings of this study showed that teachers tended to provide feedback of a motivational level of functional significance. To achieve a deeper understanding of their feedback practice, a second study was conducted.

**The second study**

The second study, consisted of two phases, aimed at understanding feedback used in Hong Kong classrooms. Teacher interview and lesson observation were used as the research methods. The three levels of functional significance of feedback was used as the basic framework for data analysis.

**The first phase: teacher interview**

As reported previously, 47 teachers were involved in the interviews. The teachers gave feedback to students about their homework (N=23, 49.0%), project work (N=10, 21.3%), test and exam (N=6, 12.8%), reports such as laboratory report and book report (N=2, 4.3%), dictation (N=2, 4.3%), oral presentation (N=1, 2.1%), and to students' answers during the lessons (N=6, 12.8%). Occasionally, teachers' feedback was to correct the learning attitudes of the students (N=2, 4.3%). It was found that

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teachers used feedback in many ways, representing three different levels of functional significance, discussed as follows:

### Motivational level

It was found that ten teachers (21.3%) used feedback for motivational purpose. They gave students a praise, sometimes a little prize, a sticker, or a lovely chop when students did well in their work. Teachers felt that their students liked these as a form of feedback and therefore used this frequently. A teacher said:

> "Students have to do a lot of copying as part of their homework. This is pretty boring. In order to provide them with some incentives, I put some nice comments there to make them feel happy. I write things such as "Nice work.", "This is beautiful." and "Improvement shown". Some of the comments are to encourage them to put more efforts into their work, for example, "Try harder". I sometimes give them a nice little chop to motivate them."

### Evaluative level

Twenty-three teachers (51.1%) were found providing feedback of evaluative level of functional significance. The feedback given was basically in the forms of grades and marks, mostly found in homework, project work, dictation and test and exam. Grades and marks in test and exam, or in some project work were formally reported, and for those in homework, they were mainly for student reference. The teachers thought that by giving students marks and grades, they could find out how well, or not so well they had performed as compared to their fellow students. A few teachers thought that the marks alone could make students realize their strengths and weaknesses of their work. One teacher explained how this could be done, as follows:

> "I give a final mark to students' work, which is an accumulative total of the marks given to different parts of the assignment. The different parts can be, for example, appropriateness of content such as a selection of newspaper cuttings, right concepts, and presentation of ideas. The weighting of presentation would have to be heavier (30%) because I think presentation is important."

### Learning level

Thirty-one teachers (66.0%) said that they provided feedback in class and on students' work. The feedback ranged from identifying which particular aspects student had

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done well or not so well. For example, teachers would underline students' mistakes and write the correct answers next to it. Some just told students the areas they needed to pay more attention but refrained from supplying them with the right answers. Individual teachers would like to let their students know their expectations of their work. A physical education teacher said:

> "I showed students what good physique entails… If they reach that sorts of standards, that is fine. If not, I will encourage them to work hard to meet the require standards."

Sometimes, the expectation is attitudinal. For example, a Maths teacher said:

> "Some students did not perform very well mainly because of a lack of concentration in class. I would then draw their attention by saying 'Please pay attention. You are not doing … (something the teacher expected them to do)' They would then realise that they were not acting upon the teacher's instructions."

The overall picture revealed from the teacher interviews is that many teachers seemed to favour the use of feedback for learning function over its motivational one. They said they would let students know what were missing from their work and would encourage them to improve their work according to their expectation. They did use feedback for its evaluative function. They gave out grades and marks alone rather frequently.

**The second phase: Lesson Observation**

This phase of the study aimed at achieving a deeper understanding of what had been revealed in the teacher interviews. Twenty-seven teachers had one lesson of their choice observed and video-recorded. They were asked to take the lesson as one of their normal lessons. In other words, they did not need to prepare the lesson especially for the investigation. The lesson observation revealed that the majority of the teachers (N=24, 88.9%) provided feedback in the classroom with many of them having motivational level of functional significance, some had evaluative level, but fewer had learning level. It was found that twenty-two teachers (81.5%) gave positive comments to students. Amongst these, two teachers (7.4%) gave a chop or a small present to students for their good performance. Two teachers (7.4%) used marks as feedback.

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Eleven teachers (40.7%) let students know which parts of their work were well done or would need more work. Below are some excerpts for elaboration purpose.

Motivational level

The teachers showed their approval or praise to the performance of students by, for example, saying to the students "Very good." or "Well done.", and/or sometimes got the class to give the student a round of applause. In some occasions, the acknowledgement would lead into a suggestion for further improvement (See Table 1).

Table 1: Excerpt One – Motivational level of functional significance

| Descriptions | Examples |
|---|---|
| Acknowledging achievement | T: I want someone to read the new words on the blackboard<br>*S stood   up and read*<br>T [to the class]: Wow. Give her a big hand.<br>*Class clapped.*<br>T [to the student]: <u>Let me give you a chop</u>. OK [Teacher puts a chop on student's handbook]<br>T [continued, to the student]: <u>But you can read a bit louder [next time]</u>. |

Showing approval to students' work can impact on student learning. The following example can be used to elaborate this. In a lesson, students were asked to complete a task as a class activity. The task required students to listen to the teacher's reading of a number of words and then pick the word cards from the deck of cards to match the words the teacher read out. The teacher would then invite a student to put the card on the board. The students were very engaged in this activity. They listened intently to the teacher and were eager to be called out to place the card on the board. Motivational level of feedback has functional significance in its own right. Below is an example for this argument.

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Table 2: Excerpt Two – Motivational level of functional significance

| Descriptions | Examples |
|---|---|
| The way teacher praised students created a learning-friendly atmosphere in classroom, and thus arousing student active engagement into the learning process. | *S places the card on 'hit'*<br>T: Is he correct?<br>C: Yes<br>T: OK Ka Lok<br>C: *Clapping hands.* Ka Lok Ka Lok Go. Go. Go. Ka Lok Ka Lok. Go. Go. Go<br>T: Thank you<br><br>T: This one. Well done<br>C: Well done Toby. Well done Toby!<br>*Ss raise hands*<br>T: Anyone ** Carol<br>Ss: No!<br>*Ss want to be called on* |

Evaluative level

Evaluative level is symbolised by the use of grades and marks. Teachers usually use these for marking student's written work. It is rather unusual to give grades and marks in classroom teaching. The study identified a few situations where giving marks was used in a classroom competition situation. Teachers used marks to indicate the different performance of students. One might wonder how useful this kind of feedback is for learning (See Table 3 for how the feedback was done). The excerpt in Table 4 showed that feedback used in this extent unfortunately did not seem very helpful. The evaluative points given by the teacher could do very little to get students focused.

Table 3: Excerpt 3: Evaluative level of functional significance

| Descriptions | Examples |
|---|---|
| Marks were used in the competition to show which group had done a better job | T: I want the representative to give me the answer. OK when I count to 3, raise your chalk boards. One two three.<br><br>*Ss raised their boards*<br>T: OK everybody is correct. But Pik Jan's group was fastest. So he gets two points, the other groups get one. OK?<br>*T put points on bb.* |

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Table 4: Excerpt 4: Evaluative level of functional significance

| Descriptions | Examples |
|---|---|
| Marks were used to keep students quiet; it was given when students behaved better than others and had given a correct answer to a question | T: OK. I'll see which group is good, then I'll give them points. Shh [Sounds – a signal to students that the teacher wanted them to keep quiet.]. <br> T: Do it later. Shh. Ok. Shh. OK put it away. What lesson is this? Have you got your GS book? *Writes on bb*. Shh. <br> *T is adding points* <br> T: Group one is not good enough. <br> *Class is gradually quiet* <br> T: Shh. I want to ask. Shh. What lesson did you have? Shh. Raise your hand? Yes Chinese. What other lessons do you have? <br> S: PE <br> T: PE. What else? Shh <br> S: Art <br> T: Art. What else? <br> S: ** <br> T: Computer. Yes. Group four. *T added points.* Library. Shh. Yes? Music? Shh. Listen carefully. <br> S: ** <br> T: Yes English. What else? <br> S: Music <br> T: Music. Have we had that? <br> S: Yes <br> T: Yes. **? <br> S: Bible <br> T: Bible yes. What else? Shh Sit down. What else Ka Kei. Shh <br> S: Putonghua. <br> T: What else? Math. Yes Shh. What else? <br> S: ** <br> T: I can't hear. Shh. If there's any noise I'll take points off. Shh. I can't hear |

Learning level

Feedback that assists students with their learning should be informative. Data analysis of the study revealed that there were various degrees of depth for giving information. In the following two scenarios, both teachers told the students that they had done a good job. In the first one, the teacher simply let the student know how s/he felt. The second one was more elaborative. The teacher made some suggestions based on the answer of the student.

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Table 5: Excerpt 5: Learning level of functional significance

| Descriptions | Examples |
|---|---|
| 1st scenario: Telling student how the <u>teacher felt</u> and <u>why</u> s/he felt that way. | T: So are there any ways to help this person? <br> S: He should not be greedy. He should try to make some new friends. <br> T: I see. This is a good answer. Very constructive suggestions. |
| 2nd scenario: Telling student <u>why and how</u> s/he did a good job and providing suggestions | T: <u>You have done well. You have to make your own judgments about what you hear from the news</u>. There are a lot of newspapers. You know there are a lot of successful people. Do you know what they do first thing in the morning? Correct, they read the newspaper. They won't read just one, but they would read several newspapers. When facing differences in information and perspectives, what would you do as a reader? Write it down. Judgment and criticism. *Writes on bb*. OK. You cannot believe everything newspapers say... <u>The groups have answered correctly. You have to see an issue from different perspectives. You have to have critical judgment, don't believe everything you hear.</u> OK |

The insights gained from the lesson observations were twofold. Firstly, feedback with motivational functional significance could have a better effect on learning than what the literature has informed. Current literature generally plays down this level of feedback, saying that it does not tell students what to do next to improve. The findings of this study revealed that these kinds of feedback could be of some use. There was evidence to show that they helped create a classroom atmosphere favourable to learning. Students were seen actively engaging themselves in the learning process. Secondly, it was found that there were variations in the depth of information provision and the explicitness of feedback. This basically supports what was found from the teacher interviews.

**Conclusion & implications**

Feedback is embedded with different levels functional significance in learning. Depending on how it is used, feedback can be of motivational, evaluative, or learning levels of functional significance. Motivational level of functional significance is often played down by the literature as it is not too informative. The first and the second studies presented in this paper showed that teachers actually used these types of feedback frequently probably because of the obvious motivational effect they could bring about. As seen by the excerpt of one lesson (Table 2), students were very active in the class. It is envisaged that motivational types of feedback can be used as a first

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step to get students engaged in learning especially when motivation becomes a factor of learning. Giving grades and marks is quite a popular way of giving feedback. They have comparative value and are useful for making students understand which level of performance they are at. The findings from teacher interviews showed that teachers used this very often for their everyday teaching. Just think of that when teachers have tons of marking to do, the most time-efficient way is to simply give a grade or some marks as feedback. However, feedback with evaluative function is rather unhelpful to student learning for its limited capacity in informing students what to improve. It is suggested that grades and marks should be given against a set of criteria, which have been made known to students. It is however much more effective when it is used together with comments. The two studies found that teachers did use feedback for the learning function, although not as much as the other two. The findings of the lesson observations pinpointed a key issue. Now, the key concern does not seem to lie in whether teachers use feedback or not as teachers do use feedback frequently for their everyday teaching. The focal point, instead, is how learning can be facilitated through giving feedback in the practical scenes. It is the quality of feedback that matters.

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