

# Spurring without a Spur — Motivating L2 Learners through Token Economy

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With the belief that learning motivation relates closely to students' day-to-day experience in the classrooms, an English Improvement Award Scheme was specially designed and tried out in a Hong Kong secondary school. The aim of the Scheme was to stimulate higher learning motivation and better performance in the English subject through the provision of instant reinforcement. This token system rewarded improvement in dictation, composition, test and class participation. The performance of students at junior secondary levels was monitored for four months. With analyzed statistics on the token scores and questionnaires answered by a sample of 119 students and 12 teachers, this study aimed at evaluating the effects which the Scheme had brought in English learning and how well-received it was for both students and teachers.

為了提高學生對學習英語的興趣，鼓勵他們積極爭取好成績，香港一所中學推行了一項全校性的英文進步獎勵計劃，就學生在英文默書、作文、測驗和課堂參與幾方面的優良表現及進步，加以獎勵。此項研究通過對學生和老師的問卷調查和抽樣訪問，旨在檢討此計劃在推行首季內之成效。

Hong Kong students usually respond positively when being asked whether they think English is useful or whether they would like to be proficient in the language. However, not many of them really work hard for the subject. Despite the fact that English is considered a ladder to success, it is not learnt with much eagerness among many Hong Kong students. This problem is particularly acute in schools of average standards or below. Achievement in second language learning relates both to the learners' aptitude and level of motivation (Lambert & Garden, 1972). However, since the former is a rather static variable which is difficult to change, educators are eager to look for means which will enhance learning motivation and spur students into greater efforts on the subject (Ramage, 1987).

## Token Economy for the Whole School

In order to stimulate students to greater efforts in the English subject, a Hong Kong secondary school has designed an English Improvement Award Scheme which experiments on the effects of extrinsic reinforcers. Under this Scheme, students of F.1 to F.7 are rewarded with tokens both for their outstanding achievement and the improvement they have made in the areas of English dictation, composition, test and class participation. Tokens are given in terms of bookmarks. With a total of 10 bookmarks, students can exchange them for a certificate of merit. At the end of each semester, the top five students in each class will win a lunch prize or stationery coupon of HK\$30. Apart from rewards, the Scheme also contains punishments. Students will be penalized by having their bookmarks taken back, one at a time, if they fail to bring their books to class, do their corrections or submit assignments on time (see the Appendix for a detailed description of the token system).

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## Programme Evaluation

All Hong Kong schoolchildren have the experience of getting either a gold star, a rabbit chop-print or any little prize for good performance in assignments or activities. Actually, such reward strategies are quite widely used in the education context to reinforce desired behaviours, yet not many schools in Hong Kong have practised them in language learning on a large scale, and little analysis has been done thoroughly to evaluate the effectiveness of reinforcement programmes on L2 learning. This study therefore aims at evaluating the effects which the English Improvement Award Scheme has brought about on English learning and how well-received it has been for both the students and teachers. With special focus on junior secondary students, the total number of tokens gained by all F.1 to F.3 participants were recorded over the first school term, i.e. 72 school days. At the end of the first school term, 119 students and 12 English teachers teaching the junior secondary levels were invited to answer two different questionnaires, and interviews were conducted with a sample of four teachers and 18 students.

## Results

### *Teachers' Attitude towards the English Improvement Award Scheme*

All 12 English teachers teaching F.1 to F.3 levels answered a questionnaire and four of them attended a face-to-face interview with the researcher. A five-point Likert scale was adopted for the questionnaire with 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree. Means and standard deviations were calculated to find out the tendency of the teachers. Any mean values greater than 3 implied positive tendencies while those less than 3 were regarded as negative.

On the whole, teachers showed a tendency towards agreeing with all the positive statements about the Scheme while they disagreed with the negative ones in the questionnaire. In brief, the programme was well-received among the teachers in the pilot period.

Table 1  
*Teachers' perception on the effects of the English Improvement Award Scheme*

Statement	Mean	Standard deviation
• I think the Award Scheme is effective in motivating the students	3.91	0.70
• Students have become keen on class activities	3.58	0.67
• Students' performance in tests is better	3.25	0.45
• Students' performance in dictation is better	3.17	0.58
• Students' performance in composition is better	3.17	0.39
• The Scheme is effective in eliminating unwanted behaviours like forgetting to bring in books or not submitting assignments	3.17	0.94
• Students are eager to get the bookmarks, but they don't really put in extra effort to win them	3.17	0.94
• I think the Scheme is worthwhile	3.92	0.79
• I think the Scheme should continue	3.75	0.87

*Teachers believe the Scheme has motivation effects on students.* As shown in Table 1 above, a mean value of 3.91 shows that the teachers agreed relatively strongly that the Scheme had motivating effects on students. They also agreed that students had become more active in English lessons and were keener on participating in class activities with the implementation of the award Scheme.

*Teacher A:*

*Students have become more eager to participate in class activities. It's just natural that a student will become more eager to answer the teacher's questions when 10 to 20 of their classmates' hands are up.*

*Teacher B:*

*There's healthy competition among students. In a peer group, students will want to get as many as, or even more tokens than their friends, not really because they want to learn better English, but for the tokens.*

*Teachers agree that the Scheme has brought some improvement to students' academic performance.* As far as academic work was concerned, the teachers remained somehow neutral when asked whether they agreed that the students' academic performance had become better in the English subject. Though considered a positive tendency, the rather neutral mean values ranging from 3.17 to 3.25 showed that the teachers only saw slight academic improvement in the subject, and the teachers also tended to agree with the statement "Students are eager to get the bookmarks, but they don't really put in extra effort to win them" (mean:3.17).

*Teacher C:*

*Students like to get the bookmarks, but they won't put in too much effort because of the tokens. The Scheme has some effects on students, but if you expect them to improve substantially in academic work, honestly I don't see this effect up till this moment.*

*Teacher D:*

*The Scheme has some effects on students, but not very prominent. Like the second test that I gave to my F.3 class. When compared with the results of last test, no obvious improvement was seen. Those who are outstanding remain the best and those who are weak are still weak. But at least, this Scheme encourages those who have the inclination to learn to work harder. The Scheme is still necessary because it helps to spur those with potential to improve.*

*Teachers believe the Scheme should continue.* Although the academic improvement did not seem prominent, the teachers still believed that the Scheme was worthwhile (mean: 3.92) and it should continue in the second semester (mean: 3.75) for the positive effects that it had brought to teaching and learning.

*Teacher C:*

*With this Scheme, teachers may have an additional strategy to encourage students to work harder and participate more actively in class. This is very important. The Scheme helps to promote better learning atmosphere and form positive learning attitude of students towards the subject.*

*Teacher D:*

*Students' attitudes obviously improved after they've gained the first bookmark, especially the boys who used to be restless in class, write only 3 lines for composition. The most important thing is, they have a clear goal for next attempt. If they get a 'C' this time, they know their next target is 'B'.*

To sum up, the teachers were positive about the English Improvement Award Scheme, they believed that the Scheme had good effects on students. Although there was not much significant improvement seen in students' performance in the subject, at least it had created a good learning atmosphere which was believed to be effective in enhancing students' motivation towards L2 learning. The teachers agreed quite strongly that the Scheme was worthwhile and that it should continue in the second semester so that it could stimulate not only the students' "wish" to gain the tokens, but also the "action" which is necessary for improving themselves in the English subject.

### *Students' Total Score of Tokens*

The total scores of tokens gained by each student in F.1 to F.3 were recorded during the pilot period. After deducting the penalties, the distribution of the token scores amongst 913 students is tabulated as follows:

Table 2  
Distribution of Token Scores among Students

Form	No. of tokens scored by students				
	0 or below	1 - 3	4 - 6	7 - 9	10 or above
1	21.3%	37.7%	27.6%	6.7%	6.7%
2	24.6%	37.9%	23%	7.9%	6.6%
3	28%	41.5%	16.8%	6.7%	7%
<b>average</b>	<b>25%</b>	<b>39%</b>	<b>22.5%</b>	<b>7.1%</b>	<b>6.8%</b>

As shown in Table 2, an average of 25% of the students scored zero tokens or below which indicated that penalties outnumbered awards. An average of 39% of students scored one to three tokens, 22.5% scored four to six tokens while only a minority of 7.1% scored seven to nine tokens and an even smaller minority of 6.8% scored 10 or above. As a whole, it was found that the majority of the students (64%) scored three tokens or below while only 36% responded quite actively to the Scheme.

### *Students' Attitude towards the English Improvement Scheme*

There were altogether 119 respondents to the student's questionnaire. Among them, 32 were F.1 students, 46 of them were in F.2 and 41 students were in F.3. A five-point Likert scale was also adopted for the student's questionnaire with 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree. Means and standard deviations were calculated for all items in the questionnaire. In addition, a sample of 18 students were interviewed in three equal groups of high, average and low token winners.

As did the teachers, the students tended to agree with all the positive statements about the Scheme and disagree with those which are negative. On the whole, they agreed quite strongly that the Scheme had good effects on them (mean: 3.81) and it should continue in the future (mean: 3.92).

*Students are eager to get the bookmarks. As shown in the results from Table 3, the Scheme was quite well-received among students. A mean value of 3.54 showed that students were quite eager to win the bookmarks.*

*Student (group A: high token winner):*

*It's good to have the Scheme continued. It's better to have it for all subjects so that I'll work hard for all subjects. I get a bookmark for English when I get 100 marks in dictation, but I don't get anything for Chinese. Then, of course, I'll work harder for English.*

Table 3  
Eagerness of Students towards the English Improvement Award Scheme

Statement	Mean	Standard deviation
• I am eager to win a bookmark	3.54	1.12
• I think the Scheme has got good effects on me	3.81	0.83
• I think the Scheme should continue	3.92	1.06
• I am eager to learn English	3.36	0.09
• I am interested in the English subject	3.40	0.97

*Student ( group B: average token winner):  
It's good to have this Scheme, we'll work harder with it. My class likes the Scheme, perhaps they want to get the merits*

*Student ( group C: low token winner):  
It's good to continue because everybody likes it.*

Regarding students' motivation, it was found that the students showed greater eagerness to the Scheme than to the language itself. When the mean value of 3.54 for the statement "I am eager to win a bookmark" is compared to 3.36 for the statement 'I am eager to learn English'<sup>1</sup> and 3.40 for the statement 'I am interested in the English subject'<sup>2</sup>, it is obvious that students were keener to win the tokens than learning English. The motivation to get the extrinsic reinforcers in this context seems stronger than the intrinsic ones.

*Student ( group B):  
I like to get the bookmarks, but it doesn't necessarily mean that I like English. Anyway, it's not very meaningful to talk about 'interest' because every subject is compulsory. We don't have a choice. We have to do it no matter we are interested or not.*

**Table 4**  
*Additional Effort Spurred by the English Improvement Award Scheme*

Statement	Mean	Standard deviation
• I remember firmly to bring in books and submit assignments in order to avoid penalty	3.94	1.00
• I have worked harder in dictation to win a bookmark	3.25	1.08
• I have worked harder in composition in order to win a bookmark	3.28	1.07
• I have worked harder for a test in order to win a bookmark	3.51	1.00
• I participated more actively in English activities in order to win a bookmark	3.13	0.99

*Greater effort is stimulated.* Although the mean values shown in Table 4 are still quite close to the central value, yet the students tended to agree that they had put extra effort into the subject. Regarding all the target areas, students tended to agree most strongly that they had worked hard to remember to bring in books and submit assignments in order to avoid penalty. Secondly, they devoted their effort mostly to tests, then to composition and dictation, and only lastly to keen participation in class activities.

*Students ( group A ):  
- With the Scheme, one will be more attentive in class and work harder on the subject, for example, being more careful in proof-reading, be more serious about work. I have worked harder especially in dictation because it's easier to get bookmarks in that area.*

*- I didn't use to do revision for English tests, but now I do. I feel very happy when I get the bookmarks. It's not so much for the prizes, but the honour which it signifies.*

*Student ( group B ):  
I work more or less the same as before. Perhaps a little harder, for example, being more careful in composition and dictation. I am happy if I can win a bookmark, but I won't feel bad if I can't. It's just a bonus.*

*Greater interest in English denied.* Students tended to agree that the Scheme had good effects on them ( $M = 3.81$ ), the Scheme should continue ( $M = 3.92$ ). They also inclined to agree that they were quite eager to win the bookmarks ( $M = 3.54$ ) and they had put extra effort into the subject. However, when being asked whether they "feel more interested in English after the implementation of the Award Scheme", the small mean value of 2.99 showed their slight inclination to disagree with the above statement. Despite the fact that the students were positive about the Scheme, their interest to the language was another matter. Their interest in gaining the reinforcers does not imply a natural enhancement of motivation towards the language itself.

*Students ( group A ):  
- I'm not very interested in English. I like Math more. This Scheme has helped to increase my interest in English, but not much.*

*- I think English is very important and I want to improve it, but my interest in the language is not strong, isn't it strange?*

*Cynical attitude of students.* Although most of the students were positive about the Scheme, some students, especially the low token-winners were cynical about the rewards. A student of this group expressed his views as follows:

*Student (group C):*

*It's no use getting the tokens. Getting the bookmarks? So what? Who cares about a lunch of HK\$30? I don't think it's an honour for me. Anyway, the top guys won't be me, so the prizes do not mean anything to me.*

On the whole, students' attitude towards the English Improvement Award Scheme was positive. They were quite eager to win the tokens, they thought the Scheme had brought good effects on them and it should continue in the second term. Though not much, they had tried to work harder in different areas of the English subject. However, the Scheme was not effective in enhancing the students' interest in the language. Their eagerness to get the tokens was higher than their eagerness to learn the language. No significant improvement was found in academic achievements, the students still performed close to their original standard.

## Discussion

### *Effects of Extrinsic Reinforcers*

Lambert and Gardner (1972) suggest two main categories of motivation as regards L2 learning viz. integrative and instrumental. The former refers to the intrinsic interest to learn a non-native language as a means for close communication and acceptance by people who speak that language, while the latter means the use of an L2 for functional purposes, such as getting a good job or moving up to higher education. However, for many junior secondary school students in Hong Kong, both motivation factors are not meaningful for them since they live in an ethnically homogenous environment where the local Cantonese culture dominates, and they are still too young to feel concerned about jobs or higher education. To most of them, English is only a compulsory school subject which they have to take with no choice. It is believed that students' motivation to L2 learning relates more closely to their day-to-day classroom experience in school (Richards, 1980). Extrinsic reinforcement such as

giving students generous encouragement, providing immediate rewards for desirable achievements and giving them opportunities to participate in class activities are important in enhancing learning motivation.

As found from the study, the provision of extrinsic reinforcers did stimulate some students' effort in the English subject. Students tended to agree that they had worked harder in the target areas, for the success and honour that the tokens symbolized. With the help of rewards, English lessons were made more challenging and interesting for students.

### *The Problem of Unresponsive Students*

Operant conditioning theorists believe that behaviour is determined by events external to the person, and so behaviour can be modified by altering its consequences (Atkinson et al, 1993). However, such a theory is considered rather 'mechanistic' because it does not see motivation as characteristic of an individual. It assumes that every person will behave in the same way given an identical stimulus. It only accounts for behavioural changes, but not subtle individual variables such as choice, beliefs, expectations and emotions (Stipek, 1993).

As seen from the study, 25% of the students scored 0 tokens or below (see table 2). The unresponsiveness of students may have been due to a combination of reasons. A lack of sufficiently powerful reinforcers to back up the tokens may weaken the effect of the programme on the participants (Kazdin, 1977). Students will act upon the contingencies only when they find the rewards tempting. The more attractive the rewards are, the more likely they will perform the target behaviours that their teachers desire.

In this study, some students didn't respond to the contingencies because they interpreted the awards in a different way. These students did not see the tokens as symbols of success and honour, nor did they find the back-up reinforcers tempting since they could easily obtain them without performing the target behaviours. When students did not find any attractive elements in the programme which were worth their efforts, they remained unresponsive to the contingencies. Yet when a student laughed cynically about the stupidity of striving hard to get a HK\$30 lunch (see section 4.3.4), it reflects not only his apathy to the reinforcers, but also the defense mechanism

in him which low-achievers always rely psychologically upon to ease their anxiety of incompetence, or use it as an excuse to avoid failures (Atkinson et al., 1993).

Many studies have proved the effectiveness of token economy in modifying behaviours, but the target behaviours will only appear if they are within the participants' repertoires (Kazdin, 1977). The English Improvement Award Scheme studied here rewards not simple behaviours which are within students' control, but concrete achievements in the subject, which many students may not be able to accomplish even with the wish to do so. As a result, only those students with a high perception of competence and those that feel a good sense of control over the reinforcers would go for the target tasks; while students with low self-perception would avoid failure by turning away from the contingencies (Stipek, 1993).

### *Gaps Between Motivation, Effort and Achievement*

As found in the study, the English Improvement Award Scheme showed some effects in stimulating higher learning motivation and greater effort in the English subject through the provision of extrinsic reinforcement. However, it did not bring about significant academic improvement in the English subject. Gaps existed between motivation, effort and achievement. Students who claimed to be eager may not have converted their enthusiasm to action. Even if they had put in more effort, they may not have been competent enough to produce any concrete academic achievement.

This Scheme was most effective for students who were capable of better academic performance but lacked the determination to work for it. As for those who did not have the ability for better academic performance, the effect of the Scheme was limited. But as shown in the results, 75% of the total students succeeded in getting some tokens ranging from 1 to 10 or above (see table 2) and it means that the Scheme has added value to students' performance in the English subject.

### *Extrinsic Reinforcement vs. Intrinsic Motivation*

From the questionnaire study, students tended to disagree that the token system had helped to enhance their interest in English. Their motivation to get the tokens did not naturally

imply higher interest in learning the language. Extrinsic motivation, in this case, remained independent of intrinsic motivation towards learning the language. It may have altered behaviours, but not "attitudes and emotional commitments that underlie the behaviours" (Kohn, 1993, p.41). Under certain circumstances, intrinsic motivation and extrinsic motivation based on rewards are to some degree incompatible. As cited by Stipek (1993), research (Deci, 1971; Lepper, Greene & Nisbett, 1973) has shown that offering extrinsic rewards sometimes undermines intrinsic motivation. The effect of providing external reinforcement is often short-lived. When the reinforcers are removed, performance of students will drop even below the baseline prior to the implementation of the programme (Kazdin, 1977; Stipek, 1993).

However, the cognitive evaluation theory proposed by Deci and Ryan's (1985) counter argues that reward does not reduce intrinsic motivation when it is quality-dependent. The effects of extrinsic rewards are salient if they are given for good performance but not only a simple completion of a task. Events that increase perceptions of competence and self-determination will enhance intrinsic motivation.

In this study, no indication was found to show the undermining effect of extrinsic reinforcement. Instead, the majority of the students interviewed expressed their welcome to the English Improvement Scheme, and the fact that they felt encouraged to perform better in the English language subject has proved the positive effects of a quality-dependent motivation programme. However, it is still important for educators to note the possible danger of making extrinsic rewards the sole reason for students to make effort for the subject. Careful precautions should be taken to ensure that the token programme can be withdrawn at a point without any loss of behaviour gains (Kazdin, 1977).

### *Punishment Undercuts Motivation*

Apart from stimulating higher learning motivations, the English Improvement Award Scheme also aimed at eliminating undesired learning behaviours such as not bringing in books for lessons or not submitting assignments. Penalties were given by cutting back the tokens that students had already earned. Such practice to contain a stick in the carrot is commonly found in

token economies (Kazdin, 1977). However, in this case, punishing students by forfeiting the rewards that they earned could lead to risks of undercutting learning motivation. Taking away tokens means pushing students further away from the back-up reinforcement. When students find it too hard to reach the target, they will stop responding appropriately to the programme. This is detrimental both to the aim of enhancing learning motivation and eliminating undesired behaviours. To maximize the effect of punishment and reward, educators are suggested to look into the possibility of operating the two systems in parallel dimensions, so that they would not undermine each other.

## Conclusion

The English Improvement Award Scheme was well-received by both the teachers and students. They thought the Scheme had good effects both on teaching and learning and the majority of them thought that it should continue. As found in the study, students were interested in getting the tokens and the provision of reinforcement had resulted in more effort in the English subject. Although the effect of the Scheme on academic performance was still limited since achievements correlate closely with other factors which cannot easily be addressed by external reinforcers, yet about 40% of the students had responded actively to the Scheme and a total of 75% of them had value added to their performance in the English subject.

The English Improvement Scheme is effective in promoting better learning atmosphere in the school, and setting clear targets for the students. Although its effect may not have seemed very significant in the pilot period, it is still a desirable auxiliary strategy which produces

spurring effects through healthy competition and performance-dependent rewards. Rome was not built in a day. The perseverance and the exploratory spirits of educators are still needed to enhance and sustain learning motivation!

## Reference Notes

<sup>1</sup> Eagerness to learn English refers to the wish of students to improve their English proficiency.

<sup>2</sup> Students who are interested in the English subject may enjoy the lessons or activities in class. Both 1 & 2 are considered intrinsic motivation in this paper.

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## Appendix

### *English Improvement Award Scheme Grading System*

S1 - S3	1st time	bookmark scored	2nd time onward	bookmark scored
<b>Dictation</b>	100 or the highest	1	improvement by 20 marks or more	1
			the highest	1
			3 consecutive 100	2
<b>Composition</b>	2 best essays	2	2 best essays	2
			Any grade improvement	1
			3 times 'A' range	2
		<b>Marks scored</b>		<b>Bookmarks scored</b>
<b>Test</b>		90 - 100		3
		80 - 89		2
		70 - 79		1
		Improvement by 10 marks or more		1
<b>Class Participation</b>		<b>book marks may be awarded at the teacher's discretion</b>		

#### *Back-up Events*

- \* Any 10 bookmarks will exchange for 1 minor merit and a letter to parents
- \* Any 20 bookmarks will exchange for 1 major merit, a letter to parents and a certificate of merit
- \* The best five students in each class will be given a lunch prize or a stationery coupon of HK\$30 at the end of each semester
- \* The best class in the school will get a prize at the end of the school year