

The Effects of Effort Feedback and L2 Task Attributions on Task Engagement and Performance

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ABSTRACT

Despite their well-established connections to student motivation and to learning outcomes, attributions, particularly at the task-level, have not garnered much attention in L2 learning research. However, research evidence in educational psychology (e.g., Stajkovic & Sommer, 2000) suggests that L2 task attributions may affect subsequent task engagement and performance. L2 task engagement is a construct studied extensively in recent L2 learning research because of its association with high-quality task performance and learning outcomes. The primary objective of this work-in-progress study is to clarify this potential link between L2 task attributions, engagement, and performance. In addition, the effect of effort feedback on these three constructs is also investigated. Previous research (e.g., Amemiya & Wang, 2018) has documented that effort feedback typically used with good intentions by L2 teachers may, in fact, backfire and exert negative influences on how individuals shape task attributions, which in turn lead to poor-quality task engagement and performance. A within-group quasi-experimental research design will be adopted for these purposes, and 120 Japanese high school students will be recruited. Participants will be divided into two groups to counterbalance the order of effort feedback provision. Three reading tasks from the EIKEN Test in Practical English Proficiency, Grade Pre-2, will be used, and time on task will be recorded as an indicator of task engagement. After performing the tasks, the participants will receive effort feedback and report their task attributions. The relationship between effort feedback, task attributions, engagement, and performance will be analyzed through hierarchical multiple regression analyses.

Keywords: second language learning, task attributions, effort feedback, task engagement, task performance

INTRODUCTION

Task-based language teaching is a mainstay in many English language teaching contexts, and recent studies have examined how individual difference factors, such as motivation, relate to task-based second language (L2) learning (e.g., Aubrey et al., 2020). While these studies provide insightful information, for example, about how students' motivation relates to their task performance, a broad range of individual difference factors remain unexplored. Of these many individual factors, this work-in-progress paper highlights a novel topic that has important links with L2 task engagement and learning: L2 task attributions. L2 task engagement gives an indication of students' behavioral, cognitive, affective, and social involvement with classroom tasks and is a concept that has gained popularity in recent L2 learning research because of its potential to explain how L2 learners perform on a task and what they learn from it (Hiver & Wu, 2022). It is, therefore, of both theoretical and pedagogical value to understand how L2 task attributions contribute to quality L2 task engagement. This knowledge can help teachers and instructional designers create psychologically necessary conditions for L2 learners that will maximize the effectiveness of task-based L2 learning.

LITERATURE REVIEW

In general, the term "attributions" refers to the perceived causes of an achievement or an outcome (Weiner, 1985). Applying this definition specifically to L2 tasks, "task attributions" refers to the ascribed reasons a learner has for their success or failure in an L2 task. Attributions can be classified using three dimensions: locus of causality, stability, and controllability. The first dimension, locus of causality, concerns whether the attribution is internal or external to the individual "agent" who made the attribution. The second dimension, stability, concerns whether the attribution is stable or fluctuating, and the third dimension, controllability, concerns whether the attribution is within one's perceived control. Some (e.g., McAuley et al., 1992) have also argued that the controllability dimension can be further classified using two dimensions: whether the attribution is within the "agent's" control (i.e., personal control) or others' control (i.e., external control). These dimensions are crucial for understanding how attributions relate to subsequent cognitive, emotional, and behavioral

consequences (Graham & Taylor, 2016). For example, Weiner (1985) argues that the locus dimension is associated with self-related emotions and, in this way, predicts subsequent learning outcomes. The stability dimension is also thought to link to subsequent expectancy for success, a concept that forms a core part of contemporary motivational science because it leads individuals to choose to initiate and sustain goal-directed actions (Eccles & Wigfield, 2020). Because of this association with motivational and learning outcomes, attributions have garnered considerable attention in educational psychology for over 60 years, and they remain a vibrant field of inquiry (Weiner, 2018).

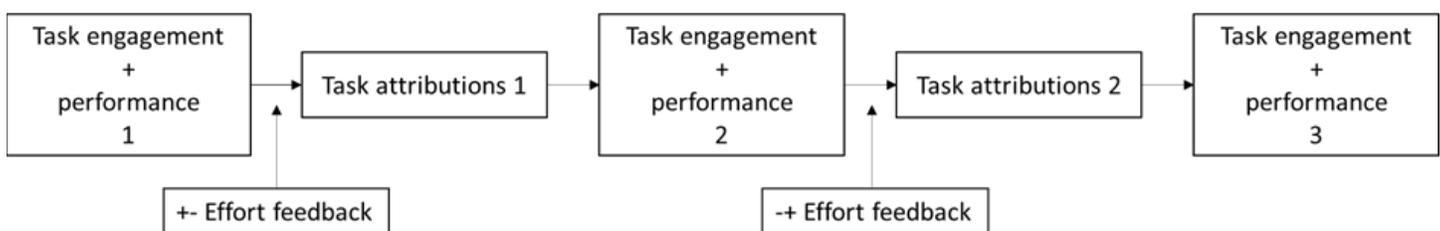
Turning to L2 learning research, however, little is known about learners' attributions. Task-level attributions, in particular, have been under-investigated (Zhang et al., 2022). Despite this relative neglect, some studies (e.g., Soriano-Ferrer & Alonso-Blanco, 2020) have reported preliminary evidence on the explanatory power of attributions, although the specific mechanisms of how they predict subsequent L2 learning outcomes and task performance are still unclear. It is here, in explaining the ways that attributions affect individuals' performance and learning outcomes, that task engagement may be of particular importance. For instance, research evidence in educational psychology (e.g., Stajkovic & Sommer, 2000) suggests that certain types of attributions are maladaptive (e.g., attributing failure to one's lack of ability) because they may result in negative cognitive, emotional, and behavioral consequences. Drawing on this understanding, it is possible that when an L2 learner forms maladaptive attributions for their in-class task performance, these attributions negatively influence learners' involvement in subsequent tasks, resulting in a vicious circle where poor task performance begets maladaptive attributions, which in turn feed back into future task performance. Conversely, adaptive attributions (e.g., attributing failure to one's lack of effort) may boost subsequent task engagement, attention, and effort, which in turn leads to positive outcomes. In other words, L2 task engagement functions as a mediator between task attributions and subsequent task performance.

Given the important link between L2 attributions, engagement, and performance at the task-level, L2 teachers may want to know how L2 learners form task attributions and if teachers can intervene in that process to prevent the formation of maladaptive attributions or to promote more adaptive ones. According to Graham (2020), after an

outcome, individuals first experience outcome-dependent affect (e.g., happiness, frustration) and then search for causes using various sources of attributional information (e.g., performance history, vicarious experiences). Among these sources, teacher feedback may be crucial here. For example, teachers often use effort feedback after students perform a task successfully (e.g., “*You worked really hard! Great work!*”) in the hope of enhancing their subsequent motivation. However, an attributional perspective can help show why this teaching practice may not always benefit learners. Although the overall positive motivational effects of effort feedback have been well documented (e.g., Schunk, 1982), there is also evidence (e.g., Amemiya & Wang, 2018) that students may perceive effort praise as an indirect cue of low ability, especially when it is offered after an easy task. As a result, such praise may backfire and function as an antecedent of subsequent maladaptive task attributions (i.e., ability attributions for failure), which in turn may exert debilitating influences on students’ subsequent motivation, engagement, and performance. To address this issue, Schunk et al. (2014) suggest that teachers carefully monitor their students’ on-task behaviors and provide credible feedback that accurately matches the causes perceived by the students.

Although the previous example concerns the potentially negative attributional effects of some teaching practices, teachers can also help L2 learners by altering their maladaptive task attributions. Research on attribution retraining is focused on these attribution modifications, although mainly at a non-task-specific level (Perry & Hamm, 2016). The primary goal of AR studies is to find an effective way to change students’ maladaptive failure attributions, namely ability attributions (e.g., “*I’m not good enough to complete a task.*”), to more adaptive ones, namely effort attributions (e.g., “*If I put in the effort, I can succeed.*”). For this purpose, studies have developed specific attribution retraining treatments (see Haynes et al., 2009 for a review of these treatments) that may also be used in L2 classrooms. As with many educational interventions, however, these methods typically take some time and require patience to implement in busy classrooms. A more actionable alternative that is likely to work across diverse classroom contexts may be simply providing students with credible, informative, and accurate effort feedback after task failure (e.g., “*You didn’t do that well because you rushed through the task. Try to pay close attention to detail and spend a little more time on the next task!*”) (Schunk et al., 2014).

Figure 1. A Hypothetical Model of L2 Task Engagement, Performance, Attributions, and Effort Feedback



Based on the above, this study sets out to clarify the specific effects of L2 task attributions on learners’ task engagement and performance. In addition, the study adopts a within-group experimental design to investigate the role of effort feedback in shaping L2 learners’ task attributions. Figure 1 illustrates the hypothetical model developed for the study. The specific research questions are as follows:

RQ1: How do L2 task attributions affect subsequent task engagement and performance?

RQ2: Does the relationship between L2 task attributions, engagement, and performance differ depending on whether effort feedback is provided?

METHOD

Participants

Recruiting for this work-in-progress study is ongoing. The participants will be secondary school learners of English sampled from an urban city in eastern Japan. All

participants are L1 Japanese users. They will have received at least five years of formal English instruction and will also be taking four to five classes of English every week at their school. Regarding their proficiency levels, according to the survey by Japan's Ministry of Education, Culture, Sports, Science, and Technology (MEXT) in 2019, only 43.6% of high school students were likely to hold an equal or a higher level of proficiency than A2 in the Common European Framework of Reference for Languages (CEFR) (MEXT, 2019). Drawing on this data, the majority of the participants are expected to be at the A1 and A2 levels. Both male and female students will be included in the sample, and they are not expected to have any experience studying abroad. Overall, the participants are expected to represent the typical case of Japanese high school students receiving formal, compulsory L2 English instruction in relatively urban areas of Japan.

Instrument

Task Attributions

L2 task attributions will be measured using the Revised Causal Dimension Scale (CDSII; McAuley et al., 1992), which consists of 12 semantic differential scale items measuring four attributional dimensions: locus of causality, stability, personal control, and external control. Each dimension is measured through three items, and the scale for these items ranges from 1 to 9, where 9 indicates that the cause is perceived as internal, stable, personally controllable, or externally controllable, whereas 1 indicates that the cause is perceived as external, unstable, personally uncontrollable, or externally uncontrollable, respectively. However, one problem with CDSII is its relatively low internal consistency, especially regarding the stability dimension (Hsieh & Kang, 2010). To resolve this issue, an additional item will be added to each dimension, resulting in a total of 16 items, with each dimension measured through four items (see Appendix A).

Task

Three reading tasks from the EIKEN Test in Practical English Proficiency (EIKEN), Grade Pre-2, will be used in this study. The EIKEN test was designed by a non-profit foundation in Japan for the purpose of measuring English

proficiency while covering a wide range of the constituents of language ability (Eiken Foundation of Japan, n.d.-a.). This test is widely used in Japanese secondary schools and universities as a basis for measuring their students' English proficiency or awarding credits (In'nami & Koizumi, 2017). Tasks from the Grade Pre-2 test were selected because this is a familiar in-class task for such participants, and the chosen level is considered the most appropriate for high school students (Eiken Foundation of Japan, n.d.-b.). In each task, participants will be presented with an explanatory text of approximately 250 words and four multiple-choice questions about the text's main idea and specific details (see Appendix B).

Task Engagement

For each reading task, the participants will be provided with a maximum of 15 minutes to answer, and the time they spend completing the task (i.e., time on task) will be recorded as an indicator of task engagement. The time window (15 minutes) will provide enough time to successfully complete the task for all the participants.

Previous studies tended to treat time on task as a conventional measure of behavioral engagement (Hiver et al., 2021; Zhou et al., 2021). Typically, the more time a participant spends completing a task, the more behaviorally engaged the participant is. However, one caveat for this is that slow completion of a task could, for example, result from a lack of willingness to solve the task. A participant might be reluctant to engage in the task and thus lacks concentration, resulting in a very long time spent on task. This example indicates that time on task should always be considered with caution because it does not capture all the aspects involved with task engagement, such as the degree of concentration (i.e., cognitive engagement) and the emotional changes during tasks (i.e., affective engagement).

Procedure and Data Analysis

IRB approval has been received, but no data collection has taken place yet. The participants will be identified with the support of cooperating high school teachers in Japan. Once recruited, the teachers will use some time during their classes to explain the purpose and design of this research to their students and ask for students' participation. The

teacher will emphasize that participation will be on a voluntary basis. Informed consent and parental approval will be collected from all the participants.

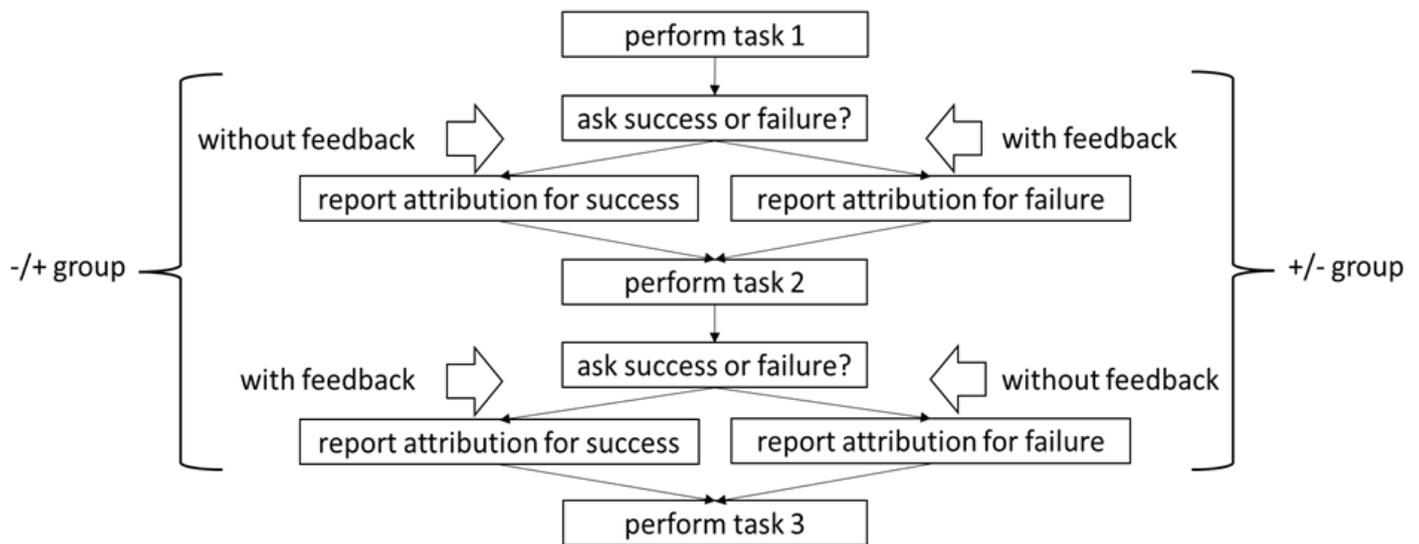
Participant sampling is planned to reach at least 120 students based on a power analysis. After this minimum number is reached, students will randomly be assigned to two groups of 60 for the purpose of counterbalancing the order of effort feedback: the first group will receive no effort feedback for the first task but will receive it for the second task (i.e., -/+ group), whereas the second group will receive effort feedback for the first task but not for the second task (i.e., +/- group). The participants will then receive an online questionnaire according to their assigned groups.

The questionnaire will be administered using Qualtrics. Figure 2 describes the process that the participants will go through in the data elicitation protocol. In terms of the -/+ group, they will first perform a task, and upon completion, they will proceed to the next stage. The time it took them to complete the task (i.e., time on task) will be recorded by Qualtrics. Next, the participants will report whether or not they think they succeeded in the task, provide one specific cause of that success/failure, and respond to the CDSII to rate the dimensions of their attributions. The subsequent process is almost identical to that followed previously:

participants proceed to the second task, complete it and proceed to the next page (time on task is recorded), judge whether they succeeded or failed on it, provide one reason for the success/failure, and respond to the CDSII. However, one notable difference is that this time, the participants will receive effort feedback immediately after they report their task success/failure: those who report task success will receive a message saying, “*You worked really hard! Great work!*”, whereas those who report task failure will receive a message saying, “*You didn’t do that well because you rushed through the task. Try to pay close attention to detail and spend a little more time on the next task!*”. The participants will then perform the third task. As with the first two tasks, their time on task will be recorded. The questionnaire will end with a demographic information section. In terms of the +/- group, they will undergo the same process described above except for the order of the feedback provision: they will receive effort feedback after the first task but not after the second task. The whole process is expected to take approximately an hour.

Lastly, to answer the first research question, several hierarchical multiple regression analyses will be performed. The results of the analyses with and without the provision of effort feedback will be compared in both groups to answer the second research question.

Figure 2. A Schematic Representation of The Data Collection Protocol



CONCLUSION

L2 task attributions have not been at the forefront of L2 learning research. Yet, their potential connection to L2 task engagement and performance suggests their importance as a motivational construct with numerous

implications for L2 classrooms (e.g., how to provide effective effort feedback). From a comprehensive perspective that takes into account students' motivation, engagement, and development, "task attributions" is a construct that both L2 scholars and practitioners should not neglect.

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APPENDIX A. The Attribution Questionnaire

Part I

Think about how well you did on the previous task. Check either one of the two choices below.

I think I succeeded in the task

I think I failed in the task

Part II

Think about **one cause** of your success/failure on the previous task. Write down that cause below.

Cause: _____

Part III

Think about the cause you have written above. The items below concern your impressions or opinions of this cause of your performance. Check one number for each of the following questions.

<i>Is the cause something</i>											
1. that reflects an aspect of yourself	9	8	7	6	5	4	3	2	1	reflects an aspect of the situation	
2. manageable by you	9	8	7	6	5	4	3	2	1	not manageable by you	
3. permanent	9	8	7	6	5	4	3	2	1	temporary	
4. that can be controlled by others	9	8	7	6	5	4	3	2	1	that cannot be controlled by others	
5. you can regulate	9	8	7	6	5	4	3	2	1	you cannot regulate	
6. inside of you	9	8	7	6	5	4	3	2	1	outside of you	
7. stable over time	9	8	7	6	5	4	3	2	1	variable over time	
8. under the power of other people	9	8	7	6	5	4	3	2	1	not under the power of other people	
9. about you	9	8	7	6	5	4	3	2	1	about others	
10. over which you have power	9	8	7	6	5	4	3	2	1	over which you have no power	
11. unchangeable	9	8	7	6	5	4	3	2	1	changeable	
12. other people can regulate	9	8	7	6	5	4	3	2	1	other people cannot regulate	
13. internal to you	9	8	7	6	5	4	3	2	1	external to you	
14. that does not change over time	9	8	7	6	5	4	3	2	1	that changes over time	
15. that can be controlled by you	9	8	7	6	5	4	3	2	1	that cannot be controlled by you	
16. over which others have control	9	8	7	6	5	4	3	2	1	over which others have no control	

APPENDIX B. Tasks*Task 1***Title: While you wait**

Many airports are busy places. Travelers hurry through them to reach their airplanes or pick up their suitcases. The staff are busy and must handle many problems every day. Most art museums, on the other hand, are calm, quiet places. Visitors walk around slowly, looking at the artwork. The staff do not move much at all. Airports and art museums are very different types of places. So, it might be surprising to discover that more art museums are opening in airports.

One example is Schiphol airport in the Netherlands. Many travelers change airplanes at Schiphol airport. As a result, they spend time there. The Netherlands is famous for art and art museums, and in 2002, the most famous art museum in the country opened a "mini-museum" in Schiphol airport. Travelers can enjoy art by some of the most famous artists in the world while they wait for their next airplane.

Other airports are starting to display more art, too. At Heathrow Airport in London, the T5 Gallery shows artwork by young, local artists. Travelers can even buy the artwork if they really like it. Terminal 2 at Mumbai airport was built to be both an airport and an art museum. The building contains over 5,000 pieces of art from all over India, including both traditional and modern pieces.

Some people do not think that art in airports is a good idea. They say that travelers are too busy to enjoy art. However, more people go to airports than art museums every year. As a result, more people have the chance to see art at airports. Travelers can learn not only about art, but also about the cultures of the countries they visit. Also, art can help people to relax -even if they do not look at it closely- and this helps to make airports more enjoyable places.

1. What has been happening at airports recently?
 - a. They have been showing posters of famous museums.
 - b. More and more travelers have been arriving late.
 - c. The staff have been helping to carry people's bags.
 - d. Places showing art have been opening inside them.
2. Travelers at Schiphol Airport
 - a. have been able to get free tickets to museums since 2002.
 - b. take a long time to change from one airplane to another.
 - c. often meet famous artists while they wait for their airplanes
 - d. can see art from the most famous collection in the Netherlands.
3. What is special about Terminal 2 at Mumbai Airport?
 - a. It displays work by artists from all over the world.
 - b. It allows travelers to buy artwork by young artists.
 - c. It was designed for both travelers and art lovers.
 - d. It lends over 5,000 pieces of art to other airports.
4. Why do some people think that art in airports is not a good idea?
 - a. Because fewer people are visiting art museums every year.
 - b. Because travelers want to relax when they are at airports.
 - c. Because airport users do not have time to look at it.
 - d. Because it does not help people learn about other cultures.

Task 2

Title: The Mystery of the Crannogs

In some lakes in Scotland and Ireland, there are small man-made islands. These are called crannogs, and they were built long ago with large rocks that were carried into the lakes. Building the crannogs was probably a lot of hard work because some of the rocks weigh 250 kilograms. What is more, the crannogs are between 10 and 30 meters wide and connected to the land by a bridge made of rocks. Although there are over a thousand of them, no one knows the reason why they were made.

Experts used to think that the crannogs were built about 3,000 years ago. However, a recent discovery shows that some of the crannogs are much older. A diver found some broken pots in the water around the crannogs in a lake on the island of Lewis. Scientists discovered that the pots were over 5,000 years old. This led to further research and the discovery of similar items in other lakes with crannogs.

The pots were in good condition, and it was clear to researchers that they had not been used much before they were dropped in the lakes. The researchers believe that the pots were probably used for special ceremonies on the crannogs. It is not clear what the purpose of the ceremonies was, though, because there are no written records from the time when they were held.

Two thousand years after the oldest crannogs were built, people began living on them. This is shown by old pieces of wood from their houses that have been found on the crannogs. When these people built their houses, they probably damaged the crannogs. This made it difficult to find out why the crannogs were built. Researchers are continuing to look for things to solve the mystery of the crannogs, but it may take many years for them to do so.

1. Crannogs are
 - a. man-made lakes in Scotland and Ireland.
 - b. islands made by people a long time ago.
 - c. walls built with large rocks.
 - d. bridges that were built across lakes.
2. The discovery of some broken pots has
 - a. allowed people to find out how the crannogs were built.
 - b. proved that there are more crannogs than scientists thought.
 - c. changed experts' ideas about how old some crannogs are.
 - d. shown that it may be too dangerous to dive in these lakes.

3. What do researchers think that the pots that they found were used for?

- For decorating people's homes.
- For important events.
- To keep written records.
- To catch fish in the lakes.

4. Why is it difficult to know the reason that the crannogs were made?

- Researchers think they lost some things that they found on them.
- People may have damaged them when they built their homes.
- Old pieces of wood might have been removed from them.
- The people who made them probably moved away long ago.

Task 3

Title: An Unusual Spice

Hing is a spice which is widely used in Indian cooking. Many traditional Indian dishes are made from vegetables like potatoes and beans, and *hing* is added to the dishes to give them a stronger flavor. However, *hing* has a very bad smell until it is added to food and heated. The smell is so bad that *hing* must be kept inside a closed box, or everything nearby will start to smell like it.

Hing is made from the juice of a plant called asafetida. This plant grows in dry, sunny places such as Iran, Afghanistan, and parts of China. Asafetida has a root like a carrot. When the plant is four years old, a hole is cut in the root, and a thick, sticky juice comes out -this is *hing*. This sticky juice soon dries and becomes hard. After that, it is often made into a powder before being sold.

Cooking *hing* in hot butter or oil changes it. The bad smell goes away, and *hing* gives a wonderful flavor to food. Many people say it tastes like cooked onions. It is not often used in Western food, probably because not many cooks know about it. However, *hing* has been used for many years to make Worcestershire sauce -a British sauce that adds flavor to foods. This sauce was first created by British people living in India.

There are other reasons for using *hing*, too. In the past, people wore small bags of *hing* around their necks to stop illnesses. Also, it has been taken as a medicine for hundreds of years to help with some stomach problems. In 1918, *hing* was used to fight a serious disease called Spanish flu. Recently, researchers have found that *hing* can actually protect people from diseases, so it seems that this unusual spice might become even more popular in the future.

1. *Hing* is a spice which is

- made from potatoes and beans.
- kept close to an open window.
- used in Indian food to make the flavor stronger.
- popular in India because of its wonderful smell.

2. What is true about the plant called asafetida?

- It releases a thick, sticky juice from its flowers.
- It grows in places where there is not much rain.
- Its leaves can be made into a powder and then sold.
- Its roots must be cut every four years to make it grow.

3. Why is *hing* probably not often used in Western food?

- Because only a few chefs have ever heard about it.
- Because many people do not like the taste of onions.
- Because chefs prefer to use Worcestershire sauce.
- Because cooking it with oil makes the smell worse.

4. What have researchers discovered about *hing*?

- Wearing a small bag of it keeps insects away.
- Eating too much of it can cause stomach problems.
- It is actually useful to help fight diseases.
- It was first brought to Europe in 1918.