

### 【3-3】 質疑応答に備える

○発表では、事前に準備した説明内容を伝えることに對し、質問は…

- ・準備した範囲を超えて、問いかけがされる。
- ・その問いかけに対して、自分で返答を考えて伝える。

…という特徴があります。英語にもよるため、高度な言語活動とみられます。

○次の表は、サンプルとして取り上げた研究（天然酵母）に対する質疑応答の例です。

|       | Questions (expected) 想定される質問                                                                                                                                                                                                                                                                                                                                                                                       | Answer (Example) 回答例                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 序論    | <p><b>What</b> is your <b>originality</b>?<br/>I want to know more <b>specifically</b>.</p> <p><b>Why</b> did you <b>pay attention</b> to natural yeast?<br/>(<b>What</b> is <b>motivation</b> in your research?)</p>                                                                                                                                                                                              | <p>Our <b>originality</b> is about fermenting sugar efficiently. <b>Specifically</b>, in previous research, it showed whether each yeast could ferment sugar. In our research, we suggested efficiently fermenting sugars.<br/>(Because) natural yeast is attached to many fruits and vegetables. We feel it's very interesting! And we <b>pay attention</b> to the possibility of surface on food.</p>                                                                                                                                                                                                 |
| 材料と方法 | <p><b>Why</b> did you use these <b>six sugars</b>?</p> <p><b>What</b> is <b>Peptone</b>? Please tell me <b>in detail</b>.</p> <p><b>Where</b> did you <b>measure</b>? If it measured indoors, was there <b>effect of humidity or temperature</b>?</p>                                                                                                                                                              | <p>These <b>six sugars</b> are famous and are approved for use in food. So, these sugars have high possibility for food development.<br/><b>Peptone</b> is composed of some amino acids. <b>In detail</b>, amino acid includes elements of nitrogen and sulfur. The elements are used for cell growth.<br/>We <b>measured</b> <b>in the laboratory</b>, and inside <b>the clean bench</b>. The room's <b>temperature</b> is constant, and <b>humidity</b> is also constant because of using a gas burner in clean bench. What we have attention is contamination. The samples measured were safety.</p> |
| 結果    | <p><b>What</b> is your <b>hypothesis</b> in <b>experiment</b>? Please explain including scientific evidence.<br/>(<b>How results</b> did you <b>predict</b> in this <b>survey</b>?)</p> <p><b>When</b> did you <b>perform</b> this <b>activity</b>?</p> <p><b>My question is</b> about figure 1, did the percentage indicate about <b>mass or volume</b>? Was the change about mass or volume <b>measured</b>?</p> | <p>Our <b>hypothesis</b> (Our <b>prediction of results</b>) is that glucose is the most efficient sugar for fermentation. Because glucose is directly used to chemical reactions of fermentation.<br/>We <b>performed</b> these activities in inquiry class, or the time after school. It took three weeks.<br/><br/>In figure 1, The percentage indicates about <b>mass</b>. We <b>measured</b> the change of sugar concentration; it's the same as changes in mass.</p>                                                                                                                               |
| 考察    | <p><b>Did you think</b> of <b>any other factor</b> about change in <b>pH</b>?</p> <p>In discussion, you said "each sugar has different chemical mechanisms in fermentation".<br/><b>How</b> do you think about <b>chemical mechanisms</b>?</p>                                                                                                                                                                     | <p>We think other acids were generated in yeast cells. But the biggest change in solution is bubbles of carbon dioxide, it may be <b>the most factor</b>.<br/><br/>In previous research, many sugars were decomposed by enzymes to glucose and the glucose fermented in <b>chemical mechanisms</b>. In our research, except for lactose, five sugars may be decomposed by enzyme.</p>                                                                                                                                                                                                                   |
| 結論    | <p><b>What</b> is "efficient"? <b>What definition</b> do you think?</p>                                                                                                                                                                                                                                                                                                                                            | <p>Our <b>definition</b> of "efficient" is good flavor, bigger size, and keep fluffy. And they're realized by many fermentations in a short time.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 展望    | <p><b>What</b> is <b>the goal</b> of the research?</p>                                                                                                                                                                                                                                                                                                                                                             | <p><b>Our goal</b> is innovation of food. We made various kinds of bread using natural yeast and sugars. And we hope to bring healthy eating habits at home.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                        |

★質問は、冒頭の特徴を把握する。

○疑問詞 5W1H から始まる質問が多くなります。

特に、「Why」「What」「How」が代表格といえます。「When」「Where」も調査の研究であれば、聴かれる頻度は高いです。

○他にも、「My question is ～」「Did you think ～?」「You said～」などにより質問されることもあります。

★動詞や目的語の聴き取りが重要。

○「何が質問されたのかわからない」…ほとんどの原因は「聞き取れなかった」「意味が理解できなかった」ことにあります。  
すると、「何を返事すればよいのかわからなくなる」となります。質問にされやすい代表的な語、自身の研究分野に関する用語を確認しましょう。

[発音チャレンジ] アクセントを調べて正しく発音しましょう。

(1) originality (独自性) (2) specifically(具体的に) (3) motivation (動機) (4) pay attention (注目する)  
(5) in detail (詳しく) (6) predict (期待する) (7) factor (原因) (8) definition (定義) (9) goal (目標)

★質問された語を用いて、少なくとも2文で返事をする。(返答の1文+補足となる1文など)

母国語の場合、表現や語彙が豊富で複雑な説明ができてしまいます。

外国語を用いる場合は、まずはシンプルに。1文質問されたら、2文程度で返すことから目指しましょう。

Q. What is your hobby? A. My hobby is playing guitar. ← hobby の返事をする。

Playing guitar is very fun for me. ← 2文目。補足する。

Q. What was your hypothesis? A. Our hypothesis was that condition1 will be larger than condition2.

Because condition1 is easy to cause gas. ← hypothesis の返事をし、補足する。

★前後に挨拶のやり取りを想定する。

Q. Thank you for your presentation. I ask you one question.

Why do you select using javelin for experiment? 質問

Please give me your answer.

A. Thank you for your question. ←挨拶

In Javelin throw, the motion is similar to baseball pitching. ←回答

So, we analyzed the motion in throwing javelin. ←回答(2文目)

That is all for my answer. ←挨拶

Q. I see. Thank you for your response.

練習

サンプル研究(天然酵母)や上記の会話を参考にして、自分たちの班における想定質問を作成し、応答する練習をしましょう。

|     |        |
|-----|--------|
| Why | What   |
| How | others |