A Behavioral Communication Framework to Promote Responsible use of Self-Tests in Tertiary Education

Developed for the self-test pilot in Rotterdam "Testing for your Future".

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TESTEN
VOOR JE TOEKOMST

MOVEZ
NETWORK

BRICS lab

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ROTTERDAM**

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INTRODUCTION

To prevent the spreading of COVID-19 and to restore access to physical education in tertiary education, the Dutch government advises students to self-test before visiting their education location. Even if students have been vaccinated, self-testing remains important to minimize the spread of the COVID-19 virus. The self-tests are freely accessible to all students in the Netherlands. The aim is that students will voluntarily test themselves before attending their college or university. What, and especially how, the advice to self-test is communicated to students, plays an important role in the extent to which students will be motivated and able to responsibly use the self-tests. This paper provides a framework for communication professionals who develop campaigns to promote the responsible use of self-tests among students. It also includes examples of materials developed based on these guidelines for the pilot in Rotterdam.
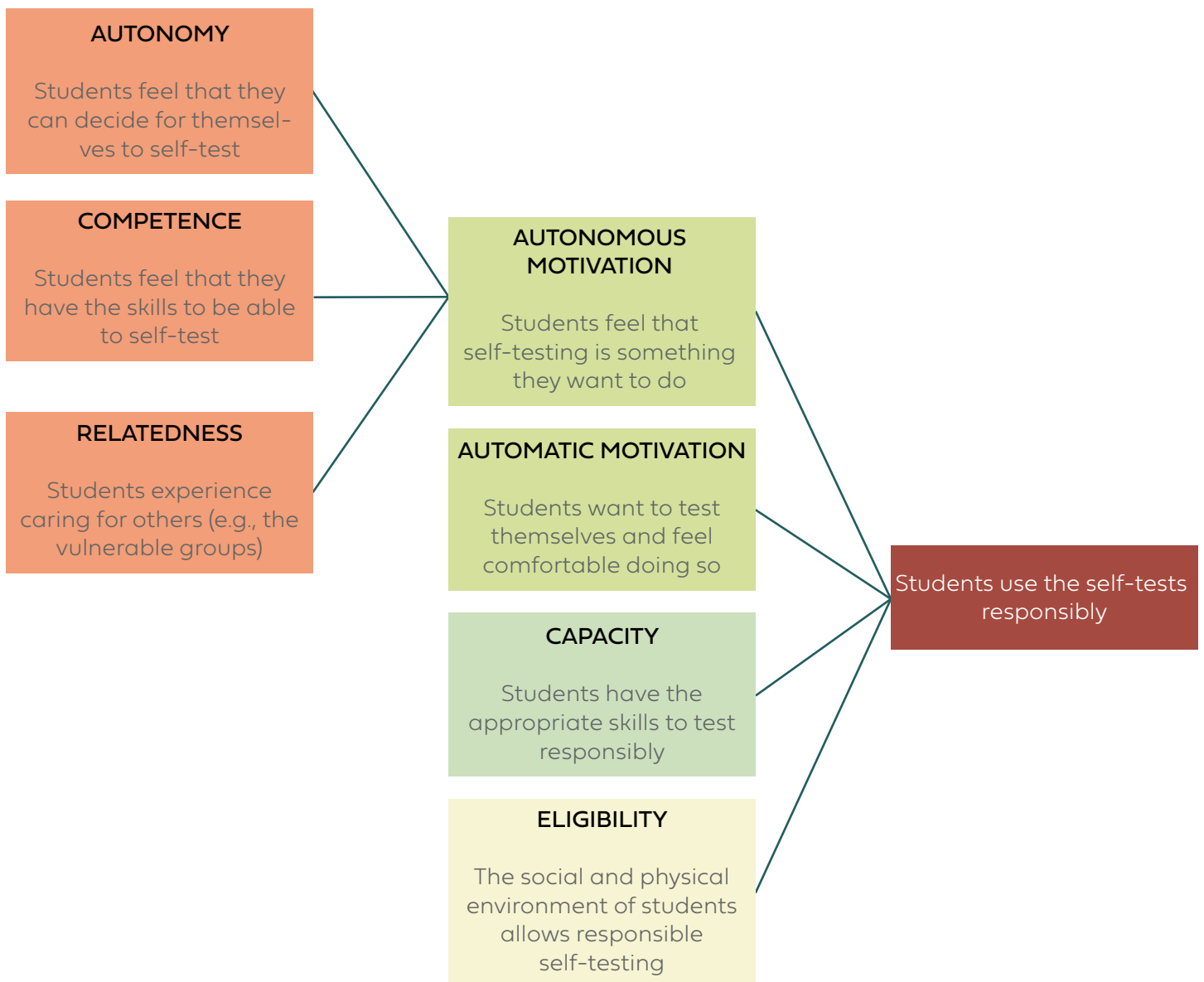
SUMMARY OF THE COMMUNICATION FRAMEWORK

Use motivational and facilitative communication. This can be done by focusing on the motivation (want to), capacity (empower), and opportunity (facilitate) of students. To communicate in a motivating and facilitating way to students, it is important to;

1) Involve the target group from the beginning of the process. For example, by holding focus groups and involving representatives of the target groups in the project consultation. Always start from their perspective and try to find out what their reasons are for self-testing or not to (this may differ from group to group and from individual to individual).

2) focus the communication on autonomous motivation (does it feel like something I want to do, rather than something I have to do) by responding to:
   a) Autonomy: capitalizes on your own reasons for self-testing and following rules. Use non-controlling language, such as a question form and inviting instructions; after all, self-testing is not mandatory. Avoid controlling language (must, impose, control); that gives a greater chance of resistance and a lower chance of achieving the desired behavior.
   b) Competence: create the feeling that they will succeed in responsible self-testing by showing confidence in them and providing compliments and positive feedback on their performance.
   c) Relatedness: show empathy and understanding towards students and emphasize that by doing so they are helping others, do make the term "others" concrete, such as the vulnerable group.

3) Focus the communication on capacity (fostering skills that enable responsible testing):
   a) Give very clear instructions that are short and straight to the point. Visuals work especially well.
   b) Use a lot of repetition, preferably in relevant situations (e.g. specific information in response to test result), and offer perspective for action: concrete suggestions and examples of how they could apply self-testing in their daily lives. Make these suggestions preferably visual as well.

4) The approach and communication should focus on creating opportunities.
   a) Set up (self-testing) environment: Acquire self-tests, the testing itself, and any reporting of the self-tests as easy as possible.
   b) Social opportunity: focus on peer-to-peer communication. Show good examples and involve role models from their community. In addition, emphasize that by self-testing they protect the people around them.

THEORETICAL BACKGROUND OF THE COMMUNICATION FRAMEWORK

To motivate and empower students to voluntarily follow the imposed advice, the self-determination theory of Deci and Ryan and Michie's COM-B model offers valuable insights. The integration of the two theories (see figure below) provides a framework for communicating with students to motivate and empower them to test themselves.

Figure 1

AUTONOMY

Students feel that they can decide for themselves to self-test

COMPETENCE

Students feel that they have the skills to be able to self-test

RELATEDNESS

Students experience caring for others (e.g., the vulnerable groups)

AUTONOMOUS MOTIVATION

Students feel that self-testing is something they want to do

AUTOMATIC MOTIVATION

Students want to test themselves and feel comfortable doing so

CAPACITY

Students have the appropriate skills to test responsibly

ELIGIBILITY

The social and physical environment of students allows responsible self-testing

Students use the self-tests responsibly

Regarding the motivation of students, a distinction can be made between autonomous and controlled motivation. **Autonomous motivation** means that students experience a sense of choice and self-will to carry out the behavior because they fully support their own actions or decisions. For example, students use self-testing because they find it valuable in preventing the spread of the COVID-19 virus. Controlled motivation, on the other hand, means that students perform the behavior because they feel pressured to do so. For example, students use self-tests because they are afraid that they will be checked at their education location. The distinction between the two forms of motivation is therefore about how the student experiences an action: does it feel like something I want to do (= autonomous motivation) or as something I have to do (= controlled motivation). In the case of controlled motivation, once the feeling of pressure is gone, the student will no longer engage in the desired behavior.

When students are autonomously motivated, the behavior is internalized (it becomes their own) and, in that case, there is voluntary compliance, and they will persist with the behavior over time. To be autonomously motivated to engage in a certain behavior, in this case self-testing, students need to feel that their three basic needs are being taken into account: autonomy, competence, and relatedness. **Autonomy** refers to feeling like they have control over their own behavior. **Competence** refers to feeling that they have the skills to carry out the behavior. **Relatedness** refers to feeling connected to others and care for others. Facilitating these three basic needs among students is crucial for creating conditions to motivate students to voluntarily obey the imposed advice.

In addition to the possibility for communication professionals to stimulate the autonomous motivation of students, it is also important to consider students' automatic motivation. **Automatic motivations** are habits and reflexes, as well as emotions that occur when a student performs the behavior. When performing the behavior triggers tension or fear, for example in self-testing students may have a fear of getting a positive test result, students will be less likely to test themselves. When the behavior is associated with positive emotions, such as pride for contributing to a safe campus and stopping the spread of the COVID-19 virus, it will be easier to engage in the behavior.

It is also important to consider the abilities of the students to use the self-tests responsibly. This involves both their physical and mental **capacity** to do so. While most students will be physically able to test themselves, several possible mental obstacles may prevent them from using the self-tests. For example, they may not know how to accurately administer and read the test or forget that they need to take a self-test.

Lastly, it is important that students have the physical and social **opportunity** to be able to test themselves. Physical opportunity means, for example, a quiet place to test, but also have easy access to free testing materials. When an appropriate self-test, place, or clear instruction is not available, it becomes more difficult for students to self-test responsibly. Besides that, students must have the social opportunity to self-test. People generally allow themselves to unconsciously be strongly influenced by the behavior and opinions of others. Students who believe that many people around them also test themselves before they go to college or the university are more likely to test themselves. Especially the behavior of people who they believe resemble them, are in their immediate circle, or who they look up to, they take into regard.

MOTIVATING AND FACILITATING COMMUNICATION

To encourage responsible use of self-testing among students, it is, as explained earlier, important to focus on their motivation, capabilities, and opportunity. To do so, not only what, but also how is communicated to students plays an important role. The communication must therefore be aimed at making students want to (= motivational communication) and empower them to use self-testing responsibly (= facilitating communication).

Motivational and facilitative communication means that the advice about self-testing is communicated in an understandable, clear, caring, and autonomy-supportive way. This way of communicating helps to ensure that students have the feeling that they choose themselves to self-test, are willing to do so, and fully support the reasons behind the given advice. In communicating the advice to self-test to students, it is important, for example, to provide personally meaningful (i.e., consistent with their perceptions) and clear reasons for why it is important to self-test. In addition, it is important to recognize the feelings and possible barriers that students may experience when self-testing, and within the confines of these, emphasize their freedom of choice by giving them options for how to follow the advice. This does not mean that students can do whatever they want or that no restrictions should be imposed. Instead, it means that students are helped to voluntarily comply with the advice by making them feel that they are being heard and that they are being treated as responsible and reasonable individuals rather than as subordinates who need to be watched and controlled.

COMMUNICATION FRAMEWORK WITH PRACTICAL GUIDELINES

Below we discuss some guidelines to communicate in a motivating and facilitating manner with students. The guidelines support autonomous motivation (autonomy, competence, relatedness), automatic motivation, capacity, and opportunity of students to self-testing in a responsible manner.

Autonomous motivation: autonomy

- **Non-controlling language**: use informative, nonjudgmental language in campaigns that convey students' freedom of choice and offer them opportunities. Avoid coercive and controlling language, such as telling students what to do. This makes students feel forced to do something, which can provoke the reaction that they will refuse to follow the advice to self-test. The use of informative, nonjudgmental language when communicating the imposed advice makes students feel that their own responsibility is respected and that they have the choice to decide for themselves whether to use a self-test. When communicating make sure that students feel that taking a self-test is valuable, and not they should do it just because it is adviced or a "must". For example, instead of communicating in a controlled manner with phrases such as "Use a self-test before you go to college," it can also be done in a less controlling way such as "To prevent the spread of the coronavirus, we are asking you to use a self-test before you come to college"

- **Name personal and meaningful reasons**: giving advice to students without justification feels to them as if it is being imposed, but when students feel they have been given a good and detailed explanation of why a particular behavior is necessary, compliance becomes more voluntary. By explaining why it is important to take a self-test before students go to college or the university, their autonomous motivation is emphasized and reinforced. The reasons become even more convincing when they match the students' perceptions, i.e. why it would be important for them to take a self-test. It is important to first explore in the target group (e.g. per education location) what reasons students might have for using a self-test. This may be slightly different for each target group and communication can therefore be tailored to these personal and meaningful reasons.

Autonomous motivation: competence

- **Give positive and relevant feedback**: by giving relevant and positive feedback to students about how well they are doing, they gain confidence in their actions and feel that they can perform the behavior, thus their autonomous motivation to continue self-testing is supported. In communicating with students, the positive effects of their behavior can be emphasized. This can be done, for example by showing them how self-testing has resulted in fewer infections in their education location. This shows that their actions, in this case, the self-testing, have been effective and have made a real difference.

- **Identify possible barriers**: by identifying the possible barriers students experience in self-testing and providing tools to overcome those barriers, students gain more confidence that they will be able to carry out the requested behavior. To identify these barriers, it is important to have a conversation with students and identify what they currently perceive to be a barrier, and come up with possible tools to address it. For example, it may be a barrier that students forget to order new self-tests, and sending a text message could serve as a tool to remove this barrier.

Autonomous motivation: relatedness

- **Acknowledge student's perspectives and feelings**: following the government's advice has substantial disadvantages for students. Therefore, it is important to express empathy and let them known that their perspective is taken into account. Show that the barriers and obstacles that students may face in self-testing are seen and empathize with them. Acknowledge students' feelings in the communication, such as the fact that they may not always be able to go to their college and university, may be afraid of becoming infected with the coronavirus if they go to their education location, or prefer not to take an unpleasant self-test.

- **Appeal to students' natural willingness to help others**: people, and therefore students, have a natural willingness to help others. Emphasize in the communication how students can help others, especially vulnerable groups, by doing simple things, such as staying home if they have a positive result. When students are asked, for example, to self-test before they go to their college or university, it can be emphasized that in doing so they can help prevent others from getting infected. Their behavior is thus, in other words, an act of heroism. Below is an example of how this guideline was used in the Rotterdam pilot.

Figure 2

Instagram post to recruit students to participate in the pilot. The text reads "HEROES WANTED." Developed by: Danny Bok, image editor Hogeschool Rotterdam.

Automatic motivation

- **Play into habitual behavior**: by linking desired behavior to habitual behavior, the desired behavior becomes more convenient. You could, for example, always combine self-testing with brushing your teeth, or with preparing breakfast. T If you do this, you are less likely to forget the behavior. The following advice could for example be communicated to the students: "While eating breakfast you can wait for your test results 😊". By doing this, you create the habit among students to always take a self-test every before breakfast.

- **Link it to emotions**: Capitalize on positive emotions. By naming feelings of pride or relief rather than feelings such as fear or spit. This way the desired behavior will evoke more positive emotions and be will be displayed more often, simply because it makes the behavior a little more pleasant.

Capacity

- **Provide concrete instructions and explanations**: in order to comply with the advice, students must exactly know what is asked of them. Clear, concrete instructions and explanations are therefore necessary. Unclear instructions, for example, can cause students to not know if they have used the test correctly. To make the instructions and explanations clear, it is helpful to not only use text, but also images (pictures and pictograms) and explanatory videos. Especially young people indicate that they appreciate such explanatory videos a lot. In Annex 1 an Example is given of how the ROCHE RDT instruction was adapted for the Rotterdam pilot.

- **Provide reminders**: appointments that are set far in advance will often be forgotten. The same applies for repetitive behaviors that are not part of the daily routine. Especially when the mental space is used elsewhere because of pressure or worry, the desired behavior will often be compromised. The use of reminders can offer a solution. Reminders work best if they are as personal as possible, respond to autonomy, and are delivered at the right moment when it is time for action. Showing appreciation, for example by saying thank you, also works well. "Hi Paul! Are you taking a test right now? Then you can safely leave soon. Thanks in advance," works better than "Do not forget to test tomorrow morning."

- **Provide only relevant information**: when students receive too much information at once, they may easily miss the message that is most important at that moment. Long texts do not motivate to read. Also, information that is important but is not offered at the right moment can easily be forgotten. Therefore, always try to offer information at the right moment. For example, only tell (or at least tell again) exactly what to do in case of a positive test result when a student receives this result. The same applies to negative test results. Only offer information when it actually matters. This ensures that information is maximally effective, and prevents irritation.

Opportunity

- **Make tests easy to obtain and simple to use**: when self-tests will be easy and inexpensive (preferably free) to obtain, they will be used more often. Make sure self-tests are available at places where young people often go to or make them easy to order online. Tests that are easy and pleasant to use will also lead to more use. Self-tests that feel uncomfortable, require a lot of complex procedures, or take a long time to produce results, will be less likely to be used.

- **Communicate the social norm**: when young people get the idea that most of their peers are engaging with the desired behavior, they will be more likely to do so themselves. Indicate for example what percentage of students use a home test. But be careful. If the social norm is negative (many students do not use the test), young people will be less likely to exhibit the desired behavior. Also showing peers who demonstrate good behavior is important. Make sure there is sufficient diversity in your communication so that everyone feels addressed.

- **Use role models**: using role models who demonstrate good behavior can help people show the behavior themselves. These role models can be people who are popular among young people or people who are seen as experts. Young people themselves who show the right behavior can also be important. We are more likely to trust and follow the behavior of people who belong to our own social group. In practice, this means that if the communication message is to use a self-test before a visit to school or college, the role models could show in a vlog how they follow this advice.
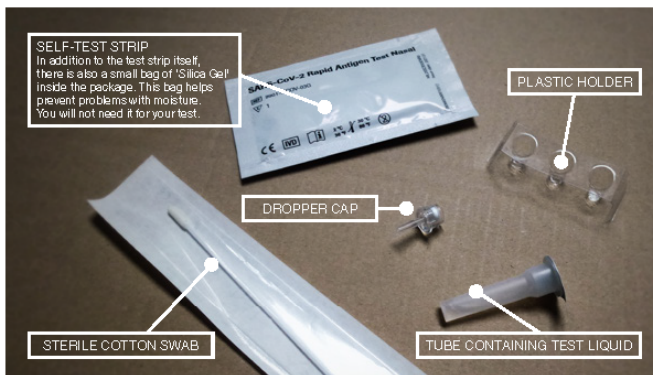
ROCHE RDT instruction adapted for the pilot in Rotterdam

Developed by Roel van der Zalm, Zalmcreaties, Printed by OBT bv

HOME TESTING INSTRUCTIONS

TESTING FOR YOUR FUTURE

EVERY SELF-TEST KIT CONTAINS THE FOLLOWING ITEMS

SELF-TEST STRIP
In addition to the test strip itself, there is also a small bag of 'Silica Gel' inside the package. This bag helps prevent problems with moisture. You will not need it for your test.

PLASTIC HOLDER

DROPPER CAP

STERILE COTTON SWAB

TUBE CONTAINING TEST LIQUID

CONTACT

DO YOU HAVE QUESTIONS?

Please contact the Infodesk Home Testing: **thuistesten@eur.nl** or call **010 - 408 12 12**

| Information about the Testing for your Future study: **click here** | Information about the home test: **click here** |

PREPARATION

PREPARATION

You have received a package containing 12 test kits. We ask you to perform a self-test twice a week for six weeks. Each time you test yourself, you will receive an email with a link to a questionnaire in which you can indicate your test result. It is also useful to prepare everything before you start self-testing.

1 HYGIENE
- Blow your nose in a paper tissue.
- Wash your hands with soap and water.

2 PLASTIC HOLDER
- You can keep using the plastic holder throughout the study unless it is dirty.
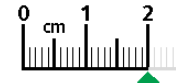
3 SETTING UP
- Check the expiration date on the back of the foil packaging of the home test. Do not use the home self-test kit if the expiration date has passed.
- Remove the test from the packaging.
- Carefully remove the foil from the tube containing the test liquid.
- Place the tube in the plastic holder.
- Keep the dropper cap close by.
- Keep your mobile phone handy to keep track of the time and to take a picture of your test result.
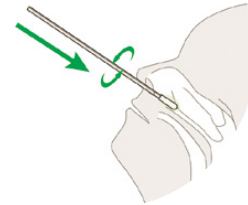

TESTING FOR YOUR FUTURE

4 **PREPARING**
- Remove the sterile cotton swab from its packaging.
- Hold the cotton swab 2 cm from the top (including the cotton part).
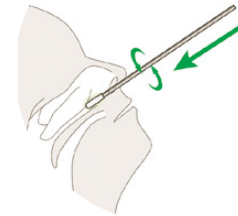- The picture roughly illustrates a distance of 2 cm.

5 **TAKING THE TEST**
- Insert the cotton swab **2 cm** into your nose.
- Twist it around **4 times** along the inside of your nose for **15 seconds**.
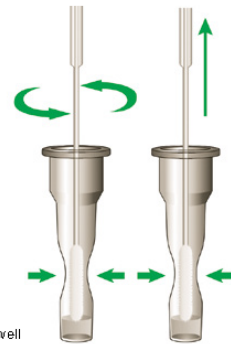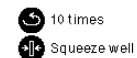- Inserting the cotton swab does not hurt. Your eyes may water (this is normal).

2 cm
4 times
15 sec

6 **REPEATING**
- Insert the same cotton swab **2 cm** into the other nostril.
- Twist it around **4 times** along the inside of your nose for **15 seconds**.

Repeat
2 cm
4 times
15 sec

7 **MIXING**
- Carefully insert the cotton swab into the tube containing the test liquid.
- Squeeze the bottom of the tube whilst rotating the swab.
- Gently rotate the cotton swab back and forth inside the tube at least **10 times**.
- Squeeze the bottom of the tube while spinning.
- Keep squeezing the sides of the tube as you remove the cotton swab from the tube. By doing this, you squeeze all the liquid from the cotton swab.
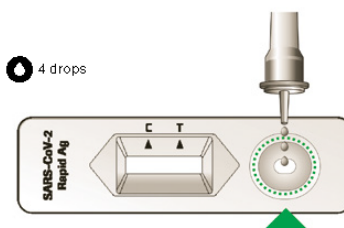- **It is important that all the liquid** remains inside the tube.

10 times
Squeeze well

8 **CLOSING THE TUBE**
- Close the tube containing the test liquid using the dropper cap by pressing it firmly onto the top of the tube.

9 **APPLYING THE DROPS**
- Carefully apply **4 drops** into the small circle printed on the self-test strip.

4 drops

TESTING
FOR YOUR FUTURE

10 **READING THE RESULT**
- Wait for **at least 15 minutes** before reading the test result.
- Read the test result **between** 15 and 30 minutes.
- Take a picture of the test result and identification code. Make sure the picture is sharp and shows the entire self-test strip and identification code. Attach this picture to the questionnaire.

POSITIVE	NEGATIVE	INVALID
• If you see two lines, one next to 'C', and one next to 'T', the test result is **POSITIVE**. You are most likely infected with the COVID-19 virus. • It is important that you go into quarantine. • We will make sure that you get a PCR test at home as soon as possible.	• If you see a line next to 'C' but no line next to 'T', the test result is **NEGATIVE**. This means that you are **most likely** not infected with the COVID-19 virus. • You can go to school or campus. • Please note: COVID protection measures still apply (such as keeping a distance of 1.5 meters and wearing a face mask when/where mandatory).	• If you can't see a line next to 'C', the test result is **INVALID**. • Please contact the Infodesk Home Testing: 010 - 408 12 12

DISPOSAL
- You can dispose of all materials in your own waste bin (residual waste).
- If you can't reuse them (because they are dirty), the plastic holders can be discarded with the plastic waste.

Source of the illustrations: Roche Diagnostics Nederland BV

FREQUENTLY ASKED QUESTIONS:

What does the 'C' on the self-test strip mean?
C stands for control line, indicating that there is enough liquid in the test. It is important that there is always a line visible next to 'C'.
More than 4 drops came out, now what?
That's not a problem. As long as the test "fills up" and a line becomes visible next to 'C', it is okay.
There was foam coming out with the drops, now what?
That's not a problem. As long as the test "fills up" and a line becomes visible next to 'C', it is okay.
After a few hours, my test result changed
The result that you read between 15 minutes and 30 minutes is the valid test result.
Something went wrong with the test
If the test was not successful, re-test using one of the self-test kits that you have at home already and request a new one via the Infodesk Home Testing.

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