## *Inclusive lesson plans using the NinU grid – Watts & Weirauch*

## **Attachment 1:** Original NinU-Raster (Stinken-Rösner et al., 2020)

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|  | **A. Reasoning about science-related contexts** | **B. Learning scientific content** | **C. Doing science** | **D. Learning about science** |
| **I. Embrace diversity** | 1. Which **science-related contexts** are stimulating and relevant for all learners? | 1. Which **contents** are relevant for all learners?  | 1. Which **processes and procedures of doing science** are relevant for all learners?  | 1. Which **aspects of learning about science** are relevant for all learners?  |
| 2. Which dimensions of diversity play a role in **reasoning about the** **science-related context**?  | 2. Which dimensions of diversity play a role in **learning the scientific content**?  | 2. Which dimensions of diversity play a role for **doing science**?  | 2. Which dimensions of diversity play a role for **learning about science**?  |
| 3. Which individual conceptions, skills, and beliefs of learners are related to **(reasoning about) the science-related context**? | 3. Which individual conceptions, skills, and beliefs of learners are related to **learning the scientific** **content**? | 3. Which individual conceptions, skills, and beliefs of learners are related to **doing science**? | 3. Which individual conceptions, skills, and beliefs of learners are related to **learning about science?** |
| 4. Which knowledge, skills, and experiences of learners can be seen as resources for **(reasoning about) the science-related context**? | 4. Which knowledge, skills, and experiences of learners can be seen as resources for **learning the scientific** content? | 4. Which knowledge, skills, and experiences of learners can be seen as resources for **doing science**? | 4. Which knowledge, skills, and experiences of learners can be seen as resources for **learning about science**? |
| **II. Recognize barriers** | 1. What are barriers and/or challenges for learners when **reasoning about the science-related context**? | 1. What are barriers and/or challenges for learners when **learning the scientific** **content**? | 1. What are barriers and/or challenges for learners when **doing science**? | 1. What are barriers and/or challenges for learners when **learning about science**? |
| **III. Enable participation** | 1. How can **(reasoning about) the science-related context** be made accessible to all learners?  | 1. How can **(learning) the scientific content** be made accessible to all learners? | 1. How can **doing science** be made accessible to all learners?  | 1. How can **learning about science** be made accessible to all learners?  |
| 2. How can the existing resources be used to overcome the barriers or challenges when **reasoning about the science-related context**? | 2. How can the existing resources be used to overcome the barriers or challenges when **learning the scientific content**? | 2. How can the existing resources be used to overcome the barriers or challenges when **doing science**? | 2. How can the existing resources be used to overcome the barriers or challenges when **learning about science**? |
| 3. How can all learners be actively engaged when **reasoning about the science-related context**? | 3. How can all learners be actively engaged when **learning the scientific content**? | 3. How can all learners be actively engaged when **doing science**? | 3. How can all learners be actively engaged when **learning about science**? |
| 4. How can (all) learners be encouraged to co-construct and collaborate when **reasoning about the science-related context**? | 4. How can (all) learners be encouraged to co-construct and collaborate when **learning the scientific content**? | 4. How can (all) learners be encouraged to co-construct and collaborate when **doing science**? | 4. How can (all) learners be encouraged to co-construct and collaborate when **learning about science**? |
| 5. How can all learners be individually supported when **reasoning about the science-related context**? | 5. How can all learners be individually supported when **learning the scientific content**? | 5. How can all learners be individually supported when **doing science**? | 5. How can all learners be individually supported when **learning about science**? |