**FIGURE, TABLE AND REFERENCES**

**(by Atikah Sy)**

Figure 1. Flowchart of the ASSURE

(\*translated from the ASSURE model Smaldino, 2011)

.

Table 1. The results of the preliminary analysis of students' scientific literacy abilities

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **School** | **Aspect** | **Ʃstudents** | **Positif** | **Percentage** | **Negatif** | **Percentage** |
|  | **Scientific Literacy Abilities** |  | **Able to answer literacy questions** |  | **Unable to answer literacy questions** |  |
| MI PGM | **Literacy Test** | 21 | 3 | 14,3 | 18 | 85,7 |
| MI An-Nur | **Literacy Test** | 35 | 5 | 14,3 | 30 | 85,7 |
|  | **rata-rata** |  |  | **14,3** |  | **85,7** |

Table 2 Observation Results of Material, Methods, Media & Objectives

|  |  |  |
| --- | --- | --- |
| **No** | Activities | **Results** |
| 1 | Learner analysis | Knowing the characteristics of 5th grade students in each school, such as cognitive characteristics and affective characteristics through theoretical review and discussion with class teachers and observing directly in the classroom. |
| 2 | Material analysis | Following the material in class in accordance with the learning theme in curriculum 2013 and researchers determine the right strategy in accordance with SIBELPOLEN and stay in touch with the material that will or is in progress in the classroom, so that the trial runs as it does without disrupting the scope & sequence of the material.  Identifying concepts and themes in the 2nd semester, among other related environmental themes and ecosystem themes |
| 3 | Methods analysis | Knowing the learning methods used, during 2x pre-research observations, teachers always use lecture methods and assignments from the LKS, so that students are less enthusiastic about joining the KBM, and researchers conclude that the process of choosing the right learning method in accordance with the classroom and student conditions and materials is very important. |
| 4 | Media analysis | During the course of 2x the material in the class, the teacher used alternative media only 1 x of the 2 schools, namely PowerPoints, and because the teacher's research time asked for a willingness to give an example of interesting learning so that the teacher provided the media. By saving researchers, teachers can use alternative media available in the neighborhood when the lack of IT facilities in school, only needed creativity from the teacher alone |
| 5 | Task analysis | Knowing the assignment by the teachers based on the LKS that are used as a handbook, which is of course only tend to one aspect of the cognitive aspect, and researchers formulate the form of bills & the more literacy activities that students will do during the trial learning activities both individually and in groups |
| 5 | *State* Performance *Objectives* | Teachers always convey the learning objectives to be done on a daily basis, this is in line with researchers who also formulate indicators of achievement of students ' learning outcomes in water cycle materials and ecosystem balance contained in the RPP-based SIBELPOLEN. |

Table 3. Syntax Model Science Learning of SIBELPOLEN

|  |  |  |  |
| --- | --- | --- | --- |
| **Stage** | **Phase** | **Teacher Activity** | **Students Activity** |
| Early activity | * Elicit (Determining objectives) | Teachers begin by determining the objectives of learning and setting up the RPP appropriately so that the basic competencies of students are more accomplished, and teachers share their roles and tasks in the learning process. | Students know and carry out the responsibilities of the roles/settings explained by the teacher |
| * Encourage (Encouraging the Spirit) | Teachers promote learners in the learning process through a call-to-action activity, then a teacher who inspires and invites prayers. | Students write a learning experience that gives birth to gratitude/writes 3 things they want but not yet done, without writing their identities students pray early material |
| Core activity | * Engagement | Teachers emphasize the involvement of students actively through questions or problems posed before the teacher explains the topic. The goal is to generate students interest in science lessons | Students actively ask questions and discuss the problems given by the teachers |
| * Exploration | Teachers provide opportunities to collaborate among students by dividing small groups without direct instruction from teachers to supervise student behaviour in practical activities, experiments and literature study | Students work together in small groups to test predictions, conduct and record observations and ideas through practicums, experiments and literature study |
| * Explanation | Teachers help students plan and prepare presentations/reports to convey to others and control how the discussion goes well | Students designing / compiling reports of observations to be delivered through discussion activities or brainstorming ideas in presentation |
| * Elaboration | Teachers invite students to apply the concept and skills of the science process that has been acquired by making questions/inquiries/reports according to the learning experience that has been done in the group | Students apply the concept and skills of the science process that has been gained in the form of the problem, and solve questions according to the learning experience |
| Final activity | * Evaluation | Teachers assess the effectiveness of phases in core activities and also evaluate the content (scientific knowledge), context (understanding concepts and situations), competencies (scientific process skills) and scientific attitudes of students (responses, interests, support and responsibilities) | Students conduct activities in accordance with the teacher's direction but remain free to be active in working group of students completing assignments independently or group |
| * E*njoyable Reflection* | Teachers help students to make fun reflections and review the activities that have been done through the invitation to write some fun things gained during the activity, before students write, the teacher invites students to close their eyes and exhale regularly accompanied by music followed by writing The learning experience. | Students do reflections through a writing about some of the fun things gained during the activity, |
|  |  |  |

**REFERENCES**

Adeniran, R. K., & Smith-Glasgow, M. E. (2010). Creating and Promoting a Positive Learning Environment Among Culturally Diverse Nurses and Students. *Creative Nursing*, *16*(2), 53–58. https://doi.org/10.1891/1078-4535.16.2.53

Arikan, S., Yildirim, K., & Erbilgin, E. (2016). Exploring the relationship among new literacies, reading, mathematics and science performance of Turkish Students in PISA 2012. *International Electronic Journal of Elementary Education*, *8*(4), 573–588.

Bahng, E. J., & Lee, M. (2017). Learning experiences and practices of elementary teacher candidates on the use of emerging technology: A grounded theory approach. *International Electronic Journal of Elementary Education*, *10*(2), 225–241. https://doi.org/10.26822/iejee.2017236118

Bohach, B. B. M., & Meade, B. (n.d.). *Fifth graders take an interdisciplinary field trip to a farm and learn science and local history in the process.* 34–41.

Borg, Walter R. and Gall, Meredith D. (1993). Educational Research: An Introduction. New York and London; Longman

Bybee, R.W., Taylor, J.A., Gardner, A., Van Scotter, P.,Powell, J.C., Westbrook, A., & Landes, N. (2006).*The BSCS 5E instructional model: Origins,effectiveness, and applications*. Colorado Springs:BSCS.

Calp, Ş. (2020). Peaceful and Happy Schools : How to Build Positive Learning Environments. *International Electronic Journal of Elementary Education*, *12*(4), 311–320. https://doi.org/10.26822/iejee.2020459460

Joyce, Bruce., Weil, Marsha & Calhoun, Emily. (2009). Models of Teaching (Eighth Edition). New Jersey : Pearson Education Inc.

Kaarby, K. M. E., & Lindboe, I. M. (2016). The workplace as learning environment in early childhood teacher education: an investigation of work-based education. *Higher Education Pedagogies*, *1*(1), 106–120. https://doi.org/10.1080/23752696.2015.1134207

Keown, S., Carroll, R., & Raisor, J. M. (2020). Creating a Community of Caring within a. *International Electronic Journal of Elementary Education*, *12*(4), 401–404. https://doi.org/10.26822/iejee.2020459469

Kiener, M., Green, P., & Ahuna, K. (2014). Using the Comfortability-in-Learning Scale to Enhance Positive Classroom Learning Environments. *InSight: A Journal of Scholarly Teaching*, *9*, 36–43. http://search.proquest.com/docview/1651861229?accountid=14744%5Cnhttp://vs4ee7hh3a.search.serialssolutions.com/directLink?&atitle=Using+the+Comfortability-in-Learning+Scale+to+Enhance+Positive+Classroom+Learning+Environments&author=Kiener,+Michael;Green,+

Levy, A. J., Jia, Y., Marco-Bujosa, L., Gess-Newsome, J., & Pasquale, M. (2016). Science Specialists or Classroom Teachers: Who Should Teach Elementary Science? *Science Educator*, *25*(1), 10–21. http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1110245&site=ehost-live%5Cnhttp://nsela.org/publications/science-educator-journal

Liao, H.-C., & Wang, Y.-H. (2015). CREATING A POSITIVE LEARNING ENVIRONMENT FOR STUDENTS WITH ENGLISH CLASSROOM ANXIETY 1. *Psychological Reports*, *116*(2), 631–646. https://doi.org/10.2466/11.PR0.116k21w8

Madden, L., Peel, A., & Watson, H. (2014). The Poetry of Dandelions: Merging Content-Area Literacy and Science Content Knowledge in a Fourth-Grade Science Classroom. *Science Activities: Classroom Projects and Curriculum Ideas*, *51*(4), 129–135. https://doi.org/10.1080/00368121.2014.931271

Mikerova, G., Sergeeva, B., & Mardirosova, G. (2018). Learning Environment Affecting Primary School Student ’ s Mental Development and Interest. *International Electronic Journal of Elementary Education*, *10*(4), 407–412. https://doi.org/10.26822/iejee.2018438130

OECD. 2014. *PISA 2012 Result in Focus: What 15 – Year – Olds Know and What They can Do with What They Know (Student Performance in Mathematics, Reading and Sciences).* Paris: OECD.

Schwartz, R. S., & Lederman, N. G. (2000). Achieving the Reforms Vision : The Effectiveness of a Specialists-Led Elementary Science Program. *Elementary Science Specialists*, *100*(4), 181–193. https://doi.org/10.1111/j.1949-8594.2000.tb17255.x

Selmer, S. J., Rye, A., Malone, E., & Fernandez, D. (2014). What Should We Grow in Our School Garden to Sell at the Farmers ’ Market ? Initiating Statistical Literacy through Science and Mathematics Integration. *Science Activities*, 17–32. https://doi.org/10.1080/00368121.2013.860418

Sharon E. Smaldino, Dkk, (2011). Instructional Technology & Media For Learning, Jakarta: Kencana

Weih, T. G. (2014). Student-described engagement with text: Insights are discovered from fourth graders. *International Electronic Journal of Elementary Education*, *6*(3), 395–414.

Wilder, M., & Shuttleworth, P. (2004). Cell Inquiry : A 5E Learning Cycle Lesson. *Science Activities*, *41*(1), 25–31.