## ABSTRAK

**Thio Aklesya Br Silaban, NIM 4192451010 (2023). Pengaruh Model Pembelajaran Sains Teknologi dan Masyarakat (STM) Terhadap Kemampuan HOTS Literasi Sains Peserta Didik Materi Kalor dan Perpindahannya di SMP Negeri 4 Medan.**

Penelitian ini bertujuan untuk mengetahui peningkatan hasil belajar dan ranah kognitif yang paling terkembangkan melalui model pembelajaran Sains Teknologi Masyarakat (STM) pada materi kalor dan perpindahannya. Populasi penelitian adalah seluruh siswa kelas VII SMP Negeri 4 Medan. Pengambilan sampel dilakukan dengan teknik pengambilan sampel *(random sampling).* Sampel dalam penelitian ini terdiri dari dua, kelas eksperimen dibelajarkan dengan menerapkan model pembelajaran Sains Teknologi Masyarakat dan kelas kontrol dengan model konvensional. Instrumen yang digunakan berupa tes kemampuan HOTS literasi sains yang telah divalidasi dalam bentuk pilihan berganda sebanyak 20 soal dengan memenuhi syarat validasi isi, tingkat kesukaran, daya beda dan reabilitas, dimana diperoleh rhitung > rtabel yaitu 0,80 > 0,361. Data *pretest* dan *posttest* serta peningkatan kemampuan HOTS literasi sains yang diperoleh kedua kelompok sampel homogen dan terdistribusi normal. Dari hasil penelitian, untuk kelas eksperimen diperoleh nilai rata-rata pretest sebesar 36,88 dan postest sebesar 86,72 sedangkan nilai rata-rata pretest untuk kelas kontrol sebesar 35 dan postest sebesar 79,85. Adapun hasil perolehan rata-rata nilai peningkatan kemampuan HOTS literasi sains peserta didik (gain) pada kelas eksperimen adalah sebesar 0,78 (78%) sedangkan peningkatan kemampuan HOTS literasi sains peserta didik (gain) pada kelas kontrol adalah sebesar 0,69 (69%). Untuk menarik kesimpulan maka dilakukan Uji hipotesis menggunakan uji t-satu pihak yaitu t pihak kanan pada taraf signifikasi 5% ($\propto = 0{,}05$), diperoleh bahwa $thitung > t\ tabel$ (2,25 > 2,0003) sehingga Ha diterima dan Ho ditolak. Model pembelajaran STM memberikan peningkatan kemampuan HOTS literasi sains terhadap peserta didik lebih tinggi dibandingkan dengan pembelajaran konvensional. Pada kelas eksperimen dari C4 (Analisis) pencapaiannya sebesar 30% pada C5 (Sintesis) Diperoleh 76% dan pada C6 (Evaluasi) diperoleh pencapaian nya sebesar 78%.



**Kata Kunci :** Model Pembelajaran Sains Teknologi Masyarakat, Kemampuan HOTS Literasi Sains, Kalor dan Perpindahannya.

## ABSTRACT

**Thio Aklesya Br Silaban, NIM 4192451010 (2023). The Effect Of the Community Science Technology (STM) Learning Model on the Ability of Science Literacy HOTS Students of Heat Material and Its Transfer at SMP Negeri 4 Medan.**

This study aims to determine the improvement of learning outcomes and the most developed cognitive domains through the Community Science Technology (STM) learning model on heat material and its displacement. The study population was all grade VII students of SMP Negeri 4 Medan. Sampling is done by sampling technique (random sampling). The sample in this study consisted of two, the experimental class was taught by applying the Science Technology Society learning model and the control class with a conventional model. The instrument used is in the form of a science literacy HOTS ability test which has been validated in the form of multiple choice as many as 20 questions by meeting the requirements for content validation, level of difficulty, differentiation and reliability, where the calculation of > rtable is obtained which is 0.80 > 0.361. Pretest and posttest data as well as improved science literacy HOTS skills obtained by both homogeneous and normally distributed sample groups. From the results of the study, for the experimental class, the average pretest score was 36.88 and the postest was 86.72 while the average pretest score for the control class was 35 and the postest was 79.85. The average gain of the value of increasing students' science literacy HOTS ability (gain) in the experimental class was 0.78 (78%) while the increase in students' science literacy HOTS ability (gain) in the control class was 0.69 (69%). To draw conclusions, a hypothesis test was carried out using a one-party t-test, namely the right side t at the level of significance of 5% ($\propto = 0.05$), it was obtained that tcalculate > t table (2.25 > 2.0003) so that Ha was accepted and Ho was rejected. The STM learning model provides an increase in the ability of HOTS science literacy for students higher than conventional learning. In the experimental class from C4 (Analysis) the achievement was 30%, in C5 (Synthesis) 76% was obtained and in C6 (Evaluation) the achievement was 78%.



**Keywords:** Community Science Technology Learning Model, HOTS Ability Science Literacy, Heat and Displacement.