

ABSTRAK

KONTRIBUSI KONSEP DASAR KIMIA, KETERAMPILAN PROSES SAINS DAN PENALARAN TERHADAP CAPAIAN SISWA SMP DALAM TIMSS-KIMIA

Penelitian ini bertujuan mendapat gambaran tentang kontribusi konsep dasar kimia, keterampilan proses sains dan penalaran terhadap capaian siswa SMP dalam TIMSS-Kimia. Jenis penelitian yang digunakan adalah penelitian korelasional, dengan desain penelitian *explanatory* dan desain *prediction*. Populasi pada penelitian ini adalah siswa kelas VIII SMPN di Kota Bandung pada tahun pelajaran 2013/2014. Pengambilan sampel menggunakan teknik *stratified random sampling*. Pengumpulan data dilakukan melalui teknik tes, meliputi tes TIMSS-Kimia, tes keterampilan proses sains dan tes penalaran. Pengolahan data dilakukan dengan analisis statistik deskriptif dan statistik inferensial. Hasil penelitian menunjukkan bahwa (1) capaian TIMSS-Kimia siswa tergolong dalam kategori rendah. (2) capaian Konsep Dasar Kimia siswa tergolong dalam kategori rendah. (3) Profil keterampilan proses sains siswa tergolong dalam kategori sedang. (4) profil kemampuan penalaran siswa berada pada tahap konkret. (5) terdapat hubungan positif dan signifikan antara konsep dasar kimia terhadap capaian TIMSS-Kimia $r (0,43) p < 0,05$. (6) terdapat hubungan positif dan signifikan antara Keterampilan Proses Sains terhadap capaian TIMSS-Kimia siswa $r (0,34) p < 0,05$, (7) terdapat hubungan positif dan signifikan antara penalaran terhadap capaian TIMSS-Kimia siswa $r (0,42) p < 0,05$, dan (8) terdapat hubungan positif dan signifikan antara konsep dasar kimia, Keterampilan Proses Sains dan penalaran secara bersama-sama (simultan) terhadap capaian TIMSS-Kimia siswa $R (0,756) p < 0,05$, yang menunjukkan hubungan yang kuat antara ketiga variabel bebas dengan variabel terikat. Kontribusi konsep dasar kimia, keterampilan proses sains dan penalaran secara bersama-sama sebesar 57,1%. Kontribusi terbesar diberikan oleh variabel penalaran, kemudian yang kedua variabel konsep dasar kimia, dan yang terkecil disumbang oleh variabel keterampilan proses sains.

Kata kunci : Kontribusi, TIMSS-Kimia, Konsep Dasar Kimia, Keterampilan Proses Sains, Penalaran

ABSTRACT

CONTRIBUTION OF CHEMISTRY BASIC CONCEPT, SCIENCE PROCESS SKILL AND REASONING TOWARD STUDENTS' ACHIEVEMENT IN JUNIOR HIGH SCHOOL ON TIMSS-CHEMISTRY

The aim of this study was to investigate the contribution of chemistry basic concept, science process skill, and reasoning toward students' achievement in junior high school on TIMSS-Chemistry. This study used correlational study which combined explanatory research design and the prediction design. The population in this study was the eighth grade of junior high school student in Bandung which the school year 2013/2014. Sampling was stratified random sampling technique. The data was collected by test techniques, including TIMSS-Chemistry test, science process skill test, and reasoning abilities test. The data collected was analyzed using descriptive statistics and inferential statistics. Findings of this study showed that (1) Students' achievement on TIMSS-Chemistry was classified in low category. (2) Students' achievement on Basic Concepts of Chemistry was classified in low category. (3) Student's profile on science process skills was classified in medium category. (4) Students' profile on reasoning abilities was at the concrete level. (5) there was positive and significant correlation between chemistry basic concept and achievement on TIMSS-Chemistry with $r (0.43) p < 0.05$. (6) there was positive and significant correlation between Science Process Skills and students' achievement on TIMSS-Chemistry with $r (0.34) p < 0.05$. (7) there was positive and significant correlation between reasoning toward students' achievement and achievement on TIMSS-Chemistry with $r (0,42) p < 0.05$. and (8) there was simultaneously positive and significant relationship among chemistry basic concepts, science process skills and reasoning toward students' achievement on TIMSS-Chemistry with $R (0.756) p < 0.05$, which showed strong correlation between independent variables and dependent variable. The contribution of chemistry basic concepts, science process skills and reasoning together were 57.1%. The biggest contribution given by variable reasoning, then variable are the chemistry basic concepts, and the smallest contributed by variable science process skills.

Keywords: Contribution, TIMSS-Chemistry, Chemistry Basic Concepts, Science Process Skills, Reasoning.