LAPORAN AKHIR PENELITIAN MULTI TAHUN

ID Proposal: e2c43aa1-9f16-4a16-ba26-39b264ffa4c4
Laporan Akhir Penelitian: tahun ke-1 dari 2 tahun

1. IDENTITAS PENELITIAN

A. JUDUL PENELITIAN

Pengembangan Model Pengayaan Bahasa Inggris untuk Menulis Skripsi Berorientasi Wacana Akademik Berbasis MOOC pada Perguruan Tinggi di Provinsi Jateng dan Papua

B. BIDANG, TEMA, TOPIK, DAN RUMPUN BIDANG ILMU

Bidang Fokus RIRN / Bidang Unggulan Perguruan Tinggi	Tema	Topik (jika ada)	Rumpun Bidang Ilmu
Sosial Humaniora, Seni Budaya, Pendidikan Penelitian Lapangan Dalam Negeri (Kecil)	Pendidikan	Teknologi pendidikan dan pembelajaran	Ilmu Linguistik

C. KATEGORI, SKEMA, SBK, TARGET TKT DAN LAMA PENELITIAN

Kategori (Kompetitif Nasional/ Desentralisasi/ Penugasan)	Skema Penelitian	Strata (Dasar/ Terapan/ Pengembangan)	SBK (Dasar, Terapan, Pengembangan)	Target Akhir TKT	Lama Penelitian (Tahun)
Penelitian Kompetitif Nasional	Penelitian Dasar	SBK Riset Dasar	SBK Riset Dasar	3	2

2. IDENTITAS PENGUSUL

Nama, Peran	Perguruan Tinggi/ Institusi	Program Studi/ Bagian	Bidang Tugas	ID Sinta	H-Index
DJATMIKA Ketua Pengusul	Universitas Sebelas Maret	Linguistik		5978750	2
LASTIKA ARY PRIHANDOKO S.S., M.Pd Anggota Pengusul 1	Universitas Musamus Merauke	Sastra Inggris	Melaksanakan tahapan analisis kebutuhan, menentukan fokus dan konten program pembelajaran, menyusun silabus, mengembangkan media pembelajaran MOOC, mengevaluasi program pembelajaran,	6704391	1

			menyusun luaran.		
Dr. Drs JOKO NURKAMTO M.Pd Anggota Pengusul 2	Universitas Sebelas Maret	Pendidikan Bahasa Inggris	Melaksanakan tahapan analisis kebutuhan, menentukan fokus dan konten program pembelajaran, menyusun silabus, mengembangkan media pembelajaran MOOC, mengevaluasi program pembelajaran, menyusun luaran	6068826	3

3. MITRA KERJASAMA PENELITIAN (JIKA ADA)

Pelaksanaan penelitian dapat melibatkan mitra kerjasama, yaitu mitra kerjasama dalam melaksanakan penelitian, mitra sebagai calon pengguna hasil penelitian, atau mitra investor

Mitra	Nama Mitra

4. LUARAN DAN TARGET CAPAIAN

Luaran Wajib

Tahun Luaran	Jenis Luaran	Status target capaian (*accepted, published, terdaftar atau granted, atau status lainnya*)	Keterangan (*url dan nama jurnal, penerbit, url paten, keterangan sejenis lainnya*)
1	Artikel di Jurnal Internasional Terindeks di Pengindeks Bereputasi	Accepted	International Journal of Emerging Technologies in Learning (iJET)

Luaran Tambahan

Tahun Luaran	Jenis Luaran	Status target capaian (*accepted, published, terdaftar atau granted, atau status lainnya*)	Keterangan (*url dan nama jurnal, penerbit, url paten, keterangan sejenis lainnya*)
1	Artikel pada Conference/Seminar Internasional di Pengindeks Bereputasi	Terbit dalam Prosiding	TEFLIN International Conference/ The Conference on Applied Linguistics (CONAPLIN)/ English Language & Literature International Conference (ELLiC)

5. ANGGARAN

Rencana anggaran biaya penelitian mengacu pada PMK yang berlaku dengan besaran minimum dan maksimum sebagaimana diatur pada buku Panduan Penelitian dan Pengabdian kepada Masyarakat Edisi 12.

Total RAB 2 Tahun Rp. 600,000,000

Tahun 1 Total Rp. 300,000,000

Jenis Pembelanjaan	Komponen	Item	Satuan	Vol.	Biaya Satuan	Total
Bahan	ATK	Kertas F4	rim	30	65,000	1,950,000
Bahan	ATK	Kertas A4	rim	50	60,000	3,000,000

Jenis Pembelanjaan	Komponen	Item	Satuan	Vol.	Biaya Satuan	Total
Bahan	ATK	Tinta BW	buah	15	150,000	2,250,000
Bahan	ATK	Tinta CMYK	buah	15	150,000	2,250,000
Bahan	ATK	Cartridge Hitam	Buah	15	350,000	5,250,000
Bahan	ATK	Cartridge CMYK Ori	Buah	10	350,000	3,500,000
Bahan	ATK	Stopmap	Buah	20	20,000	400,000
Bahan	ATK	Alat pos	Lembar	300	6,000	1,800,000
Bahan	ATK	Pensil Faber Castle	Buah	100	3,000	300,000
Bahan	ATK	Penghapus	Buah	100	2,000	200,000
Bahan	ATK	Bolpoin	Buah	100	5,000	500,000
Bahan	ATK	Stapler HD 50 Max	Buah	20	67,000	1,340,000
Bahan	ATK	Isi Staples	Box	50	10,000	500,000
Bahan	ATK	Art Paper	Pax	50	40,000	2,000,000
Bahan	ATK	Map Mika	Buah	200	10,000	2,000,000
Bahan	ATK	Saldo	Paket	12	100,000	1,200,000
Bahan	ATK	Fotokopi Dokumen Sekunder	Paket	5	700,000	3,500,000
Bahan	ATK	Fotokopi Soal	Paket	5	700,000	3,500,000
Bahan	ATK	Fotokopi Quesioner	Paket	5	700,000	3,500,000
Bahan	Bahan Penelitian (Habis Pakai)	Cetak, jilid, dan penggandaan laporan kemajuan dan akhir Pertanggungjawaban Penelitian	Paket	4	170,500	682,000
Pengumpulan Data	FGD persiapan penelitian	HR Pemateri FGD	OJ	2	1,000,000	2,000,000
Pengumpulan Data	FGD persiapan penelitian	Uang harian Peserta	Orang/Kali	30	200,000	6,000,000
Pengumpulan Data	FGD persiapan penelitian	HR Moderator	Orang/Kali	2	700,000	1,400,000
Pengumpulan Data	FGD persiapan penelitian	HR Pembawa Acara	Orang/Kali	1	400,000	400,000
Pengumpulan Data	FGD persiapan penelitian	Backdrop FGD	Buah	2	350,000	700,000
Pengumpulan Data	FGD persiapan penelitian	Konsumsi	Paket	20	50,000	1,000,000
Pengumpulan Data	FGD persiapan penelitian	Cinderamata Peserta	Paket	20	100,000	2,000,000
Pengumpulan Data	HR Pembantu Peneliti	Validator Kuisioner & Pre-Test	Paket	6	975,000	5,850,000
Pengumpulan Data	HR Petugas Survei	Surveyor	OH	50	75,000	3,750,000

Jenis Pembelanjaan	Komponen	Item	Satuan	Vol.	Biaya Satuan	Total
Pengumpulan Data	Transport	Solo-Merauke (PP) Eselon II/Gol.IV	OH	2	22,955,000	45,910,000
Pengumpulan Data	Transport	Merauke-Solo (PP) eselon III/Gol. III	OH	2	11,859,000	23,718,000
Pengumpulan Data	Transport	Transportasi Pengumpulan Data Solo	OH	80	150,000	12,000,000
Pengumpulan Data	Transport	Transport Pengumpulan Data Merauke	OH	40	150,000	6,000,000
Pengumpulan Data	Transport	Observasi Awal	OH	4	150,000	600,000
Pengumpulan Data	Uang Harian	Data Collector	OH	6	150,000	900,000
Pengumpulan Data	Penginapan	Penginapan Merauke (Eselon II/ Gol IV)	Orang/Kali	6	2,550,000	15,300,000
Pengumpulan Data	Penginapan	Penginapan Solo (Eselon III/ Gol III)	Orang/Kali	6	750,000	4,500,000
Pengumpulan Data	Biaya konsumsi	Makan dan Snack rapat pembuatan kuisioner & pre-test	Paket	10	50,000	500,000
Pengumpulan Data	Biaya konsumsi	Wawancara	Paket	50	50,000	2,500,000
Pengumpulan Data	HR Pembantu Lapangan	HR Asisten Lapangan	OH	80	80,000	6,400,000
Sewa Peralatan	Peralatan penelitian	Sw Kamera Dokumentasi	Perkegiatan	10	500,000	5,000,000
Sewa Peralatan	Peralatan penelitian	Sw Mobil	Perkegiatan	5	800,000	4,000,000
Analisis Data	HR Sekretariat/Administrasi Peneliti	HR Pembantu Peneliti	OB	6	500,000	3,000,000
Analisis Data	HR Pengolah Data	HR Analis Data	OH	56	25,000	1,400,000
Analisis Data	Honorarium narasumber	Focus Group Discussion	OH	2	950,000	1,900,000
Analisis Data	Uang Harian	Rapat Diskusi Analisis	OH	6	150,000	900,000
Analisis Data	Biaya konsumsi rapat	Rapat perbulan	Paket	10	25,000	250,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	HR Sekretariat/Administrasi Peneliti	Penyusunan Laporan Akhir dan Pertanggungjawaban	OH	100	55,000	5,500,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Uang harian rapat di luar kantor	Rapat Disukusi Analisis dan Penyelesaian Laporan	Paket	6	150,000	900,000

Jenis Pembelanjaan	Komponen	Item	Satuan	Vol.	Biaya Satuan	Total
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Biaya konsumsi rapat	Makan Snack Rapat Penyusunan Naskah Luaran	Paket	6	50,000	300,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Biaya konsumsi rapat	Makan Snack Rapat Penyusunan Laporan Akhir	Paket	6	50,000	300,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Biaya seminar internasional	Translate Artikel Luaran	Paket	3	4,000,000	12,000,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Biaya seminar internasional	Proofread Artikel Luaran	Paket	3	1,000,000	3,000,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Biaya seminar internasional	Seminar	Paket	3	3,500,000	10,500,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Publikasi artikel di Jurnal Internasional	Publikasi Jurnal Accepted	Paket	1	50,000,000	50,000,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Publikasi artikel di Jurnal Internasional	Proofread dan Translate Jurnal Scopus (Klinik, dll)	Paket	2	10,000,000	20,000,000

Tahun 2 Total Rp. 300,000,000

Jenis Pembelanjaan	Komponen	Item	Satuan	Vol.	Biaya Satuan	Total
Bahan	ATK	Kertas F4	Rim	20	65,000	1,300,000
Bahan	ATK	Kertas A4	Rim	50	60,000	3,000,000
Bahan	ATK	Tinta BW	Buah	20	150,000	3,000,000
Bahan	ATK	Tinta CMYK	Buah	15	150,000	2,250,000
Bahan	ATK	cartridge BW	Buah	15	350,000	5,250,000
Bahan	ATK	Cartridge CMYK	Buah	10	350,000	3,500,000
Bahan	ATK	Map Buffalo	Buah	200	2,000	400,000
Bahan	ATK	Alat pos	Buah	300	6,000	1,800,000
Bahan	ATK	Pensil Faber Castel	Buah	100	3,000	300,000
Bahan	ATK	Penghapus	Buah	100	2,000	200,000
Bahan	ATK	Bolpoin	Buah	100	5,000	500,000
Bahan	ATK	Kertas Mika	Buah	50	5,000	250,000
Bahan	ATK	Art paper	Pax	20	35,000	700,000

Jenis Pembelanjaan	Komponen	Item	Satuan	Vol.	Biaya Satuan	Total
Bahan	ATK	Lakban	Buah	10	25,000	250,000
Bahan	ATK	Binder klip	Box	20	30,000	600,000
Bahan	ATK	Stopmap Bag	Buah	20	40,000	800,000
Bahan	ATK	Saldo	Paket	24	100,000	2,400,000
Bahan	ATK	Penggandaan dokumen sekunder	Paket	5	600,000	3,000,000
Bahan	ATK	Penggandaan Soal	Paket	5	700,000	3,500,000
Bahan	ATK	Penggandaan kuesioner	Paket	5	650,000	3,250,000
Bahan	ATK	Draft Buku	Paket	5	300,000	1,500,000
Bahan	Bahan Penelitian (Habis Pakai)	Pelaporan Akhir, SPJ Tahun terakhir (Poster)	Paket	1	296,000	296,000
Pengumpulan Data	FGD persiapan penelitian	HR Pemateri Diseminasi	OJ	2	1,000,000	2,000,000
Pengumpulan Data	FGD persiapan penelitian	Backdrop Diseminasi	Buah	2	400,000	800,000
Pengumpulan Data	FGD persiapan penelitian	Seminar Kit Peserta	Paket	30	150,000	4,500,000
Pengumpulan Data	FGD persiapan penelitian	Cinderamata Peserta Diseminasi	Paket	20	150,000	3,000,000
Pengumpulan Data	HR Pembantu Peneliti	Validator Kuesioner dan Pretest	Paket	5	1,000,000	5,000,000
Pengumpulan Data	Transport	Transport Solo-Marauke (PP) Eselon III/Gol IV Uji coba dan diseminasi	OH	2	22,955,000	45,910,000
Pengumpulan Data	Transport	Transport Merauke-Solo (PP) Eselon III/Gol III Uji Coba Diseminasi	OH	2	11,859,000	23,718,000
Pengumpulan Data	Transport	Transportasi Uji Coba Produk Diseminasi di Solo	OH	80	150,000	12,000,000
Pengumpulan Data	Transport	Transportasi Uji Coba Produk di Merauke	OH	40	150,000	6,000,000
Pengumpulan Data	Uang Harian	Peserta Diseminasi	Orang/Kali	30	200,000	6,000,000
Pengumpulan Data	Penginapan	Penginapan Merauke (Esselon III/ Gol IV) Uji Coba dan Diseminasi	Orang/Kali	6	2,521,000	15,126,000
Pengumpulan Data	Penginapan	Penginapan Solo 9Esselon III/Gol III) Uji Coba dan Diseminasi	Orang Kali	6	750,000	4,500,000

Jenis Pembelanjaan	Komponen	Item	Satuan	Vol.	Biaya Satuan	Total
Pengumpulan Data	Biaya konsumsi	Makan snack rapat pembuatan kuesioner dan pre-test	Paket	10	50,000	500,000
Pengumpulan Data	Biaya konsumsi	Konsumsi Peserta Uji Coba Produk	Paket	50	50,000	2,500,000
Pengumpulan Data	HR Pembantu Lapangan	HR Moderator Diseminasi	Orang/Kali	2	700,000	1,400,000
Pengumpulan Data	HR Pembantu Lapangan	HR Pembawa Acara Diseminasi	Orang/Kali	1	400,000	400,000
Pengumpulan Data	HR Pembantu Lapangan	HR Data Collector	OH	80	80,000	6,400,000
Sewa Peralatan	Peralatan penelitian	Sw Kamera Dokumentasi	Perkegiatan	10	500,000	5,000,000
Sewa Peralatan	Ruang penunjang penelitian	Sw Studio dan Perlengkapannya	Perkegiatan	10	850,000	8,500,000
Sewa Peralatan	Transport penelitian	Sw Mobil	OB	5	800,000	4,000,000
Analisis Data	HR Sekretariat/Administrasi Peneliti	Administrasi Data	OB	12	200,000	2,400,000
Analisis Data	HR Pengolah Data	Data Collector (Anlis)	OB	12	250,000	3,000,000
Analisis Data	Honorarium narasumber	Disemnasi 9Pemateri)	Per kegiatan	2	1,600,000	3,200,000
Analisis Data	Biaya analisis sampel	Design Website MOOC	Paket	1	15,000,000	15,000,000
Analisis Data	Biaya analisis sampel	HR Talent Video MOOC	Person	10	1,500,000	15,000,000
Analisis Data	Biaya konsumsi rapat	Rapat anilisi data	Paket	8	50,000	400,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	HR Sekretariat/Administrasi Peneliti	HR Penyusun Buku Ajar	Paket	2	2,750,000	5,500,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Biaya konsumsi rapat	Rapat Penyusunan capaian luaraan wajib dan tambahan	Paket	12	50,000	600,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Biaya konsumsi rapat	Rapat Penyusunan laporan akhir dan pertanggungjawaban	Paket	12	50,000	600,000
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Publikasi artikel di Jurnal Internasional	Publikasi Jurnal Accepted (Internasional Scopus)	Paket	1	50,000,000	50,000,000
Pelaporan, Luaran Wajib,	Publikasi artikel di Jurnal Internasional	Translate Jurnal Scopus (Klinik, dll)	Paket	1	5,000,000	5,000,000

Jenis Pembelanjaan	Komponen	Item	Satuan	Vol.	Biaya Satuan	Total
dan Luaran Tambahan						
Pelaporan, Luaran Wajib, dan Luaran Tambahan	Publikasi artikel di Jurnal Internasional	Proofreading Jurnal Scopus (Klinik, dll)	Paket	1	4,000,000	4,000,000

6. HASIL PENELITIAN

A. RINGKASAN: Tuliskan secara ringkas latar belakang penelitian, tujuan dan tahapan metode penelitian, luaran yang ditargetkan, serta uraian TKT penelitian.

Kewajiban menulis skripsi yang harus dilakukan oleh mahasiswa di tengah masa pendemi COVID-19 memberikan tekanan yang lebih berat khususnya bagi mahasiswa jurusan Bahasa Inggris. Mahasiswa memiliki keterbatasan dalam mencari sumber referensi bahan penulisan, stimulus untuk menulis, melakukan pengambilan data, hingga berdiskusi dengan dosen pembimbing. Keadaan ini menuntut mahasiswa menjadi pembelajar mandiri yang adaptif. Hasil analisa kebutuhan yang dilakukan terdhadap mahasiswa Bahasa Inggris di Jawa Tengah dan Papua, mahasiswa mengalami kesulitan dalam menulis karena belum sepenuhnya memahami bagaimana cara mencari topik penelitian yang baik, menemukan sumber referensi yang terpercaya, membaca referensi secara efektif, membuat kerangka penulisan, melakukan parafrasa dan sintesis, dan menggunakan pengutipan yang berterima. Sehingga, masalah yang terjadi dalam penulisan skripsi ini mengakibatkan dampak jangka panjang dimana mahasiswa berpotensi untuk tidak lulus tepat waktu.

Untuk membekali mahasiswa dengan kemampuan menulis akademik yang baik dan memadai, penelitian ini bertujuan untuk mengembangkan model pengayaan Bahasa Inggris untuk menulis skripsi berorientasi wacana akademik dengan penggunaan media berbasis Massive Open Online Course (MOOC). Pembelajaran induktif berbasis analisis genre digunakan untuk mendampingi peserta didik dalam menganalisis teks sampel dengan beberapa langkah analisa genre seperti mencari konteks retorikal, pola organisasi teks, fitur leksikal-gramatikal, hingga menghubungkan teks sampel dengan rencana menulis akademik.

Subjek dari penelitian ini adalah mahasiswa dan dosen di jurusan Bahasa Inggris pada salah satu PTN di Jawa Tengah dan Papua. Pengambilan sampel dilakukan dengan teknik purposive sampling yaitu mahasiswa yang telah menempuh mata kuliah seminar proposal dan dosen pembimbing skripsi. Teknik pengumpulan data dalam penelitian ini menggunakan kuisioner, wawancara, FGD, performance test, analisis dokumen, kajian pustaka, pre-test & post-test. Penelitian pengembangan ini direncanakan untuk dilakukan dalam dua tahun. Pada tahun pertama penelitian, telah dilaksanakan pengumpulan data dan analisis kebutuhan mahasiswa serta investigasi wacana spesialis. Hasil dari penelitian tahun pertama ini yaitu profil peserta ajar, profil program pembelajaran terdahulu, target capaian pembelajaran, dan data ragam wacana spesifik menulis akademik (skripsi). Pada tahun kedua nanti akan dilaksanakan pengembangan kurikulum dan diseminasi produk hasil penelitian berupa modul dan platform MOOC untuk penulisan skripsi berorientasi wacana akademis. Adapun luaran pada tahun pertama yang telah dipenuhi yaitu 1 publikasi artikel hasil penelitian pada International Journal of Instruction, 1 artikel di Jurnal TEFLIN, dan 2 Publikasi artikel hasil penelitian pada prosiding Atlantis Press (internasional bereputasi).

B. KATA KUNCI: Tuliskan maksimal 5 kata kunci.

Model Pengayaan; Bahasa Inggris; Skripsi; MOOC

Pengisian poin C sampai dengan poin H mengikuti template berikut dan tidak dibatasi jumlah kata atau halaman namun disarankan seringkas mungkin. Dilarang menghapus/memodifikasi template ataupun menghapus penjelasan di setiap poin.

C. HASIL PELAKSANAAN PENELITIAN: Tuliskan secara ringkas hasil pelaksanaan penelitian yang telah dicapai sesuai tahun pelaksanaan penelitian. Penyajian dapat berupa data, hasil analisis, dan capaian luaran (wajib dan atau tambahan). Seluruh hasil atau capaian yang dilaporkan harus berkaitan dengan tahapan pelaksanaan penelitian sebagaimana direncanakan pada proposal. Penyajian data dapat berupa gambar, tabel, grafik, dan sejenisnya, serta analisis didukung dengan sumber pustaka primer yang relevan dan terkini.

Pengisian poin C sampai dengan poin H mengikuti template berikut dan tidak dibatasi jumlah kata atau halaman namun disarankan seringkas mungkin. Dilarang menghapus/memodifikasi template ataupun menghapus penjelasan di setiap poin.

C. **HASIL PELAKSANAAN PENELITIAN:** Tuliskan secara ringkas hasil pelaksanaan penelitian yang telah dicapai sesuai tahun pelaksanaan penelitian. Penyajian dapat berupa data, hasil analisis, dan capaian luaran (wajib dan atau tambahan). Seluruh hasil atau capaian yang dilaporkan harus berkaitan dengan tahapan pelaksanaan penelitian sebagaimana direncanakan pada proposal. Penyajian data dapat berupa gambar, tabel, grafik, dan sejenisnya, serta analisis didukung dengan sumber pustaka primer yang relevan dan terkini.

Hasil Pelaksanaan Penelitian tahun pertama

Pada pelaksanaan penelitian tahun pertama ini, dilakukan dua prosedur utama yaitu analisis kebutuhan dan investigasi wacana spesialis untuk menulis skripsi. Hasil dari pelaksaan dua prosedur tersebut akan dijelaskan secara rinci dibawah ini.

1. Analisis Kebutuhan

   Analisis kebutuhan dilakukan untuk mengidentifikasi beberapa hal yaitu analisis situasi target, analisis wacana, analisis situasi terkini, analisis faktor pembelajar dan analisis konten pembelajaran. Analisis ini dilakukan dengan tujuan utama untuk mengidentifikasi kebutuhan mahasiswa terhadap materi pengayaan bahasa Inggris untuk menulis skripsi secara menyeluruh. Adapun hasil dari pelaksanaan analisis kebutuhan diklasifikasikan dalam tiga hal seperti berikut:

   a. Profil Peserta Ajar

      Berdasarkan data yang dikumpulkan melalui kuesioner, wawancara, dokumen analisis dan FGD terhadap mahasiswa dan dosen tentang kemampuan, tantangan hingga kesulitan yang dialami dalam proses penulisan skripsi pada perguruan tinggi di Jawa tengah dan Papua, ditemukan bahwa masih banyak mahasiswa yang memiliki kendala dan kesulitan dalam menulis skripsi. Dibawah ini merupakan hambatan-hambatan non kognitif yang dialami mahasiswa dalam menulis skripsi:

      Tabel 1. Kesulitan non kognitif mahasiswa dalam menulis skripsi

No	Aspek	Kesulitan
1	Motivasi	Kurangnya motivasi dan dukungan lingkungan sekitar serta dosen pembimbing untuk mendorong mahasiswa dalam menulis skripsi.
2	Pelaksanaan penelitian pada masa pandemi	Pada masa pandemi, pelaksanaan penelitian lapangan sangat terbatas dan harus beralih menggunakan system online
4	Literasi akdemik	Mahasiswa kesulitan dalam mencari jurnal dan artikel terkait yang sesuai dengan topik skripsi
5	Manajemen waktu	Manajemen waktu yang belum maksimal untuk menulis skripsi
6	Bimbingan	Bimbingan skripsi tidak berjalan maksimal pada masa pandemic
7	Sistematika penulisan skripsi	Mahasiswa masih merasa bingung dengan sistematika penulisan skripsi yang benar
8	Objek penelitian	Objek atau partisipan penelitian terkadang kurang menghargai peneliti dalam proses pengambilan data

      Aspek-aspek non-kognitif yang menjadi kendala bagi mahasiswa seperti yang tertera pada tabel 1 memberikan gambaran bahwa kemampuan menulis skripsi tidak hanya bergantung pada kemampuan kognitif seseorang melainkan gabungan dari aspek non kognitif dan kognitif yang baik.

      Adapun data yang diperoleh dari FGD terhadap dosen dan mahasiswa, serta didukung oleh hasil analisa dokumen skripsi mahasiswa di Jawa Tengah dan Papua menunjukkan secara detail kesulitan mahasiswa dalam menulis skripsi seperti yang terlihat pada tabel di bawah ini:

Tabel 2. Kemampuan dan kesulitan mahasiswa dalam menulis skripsi

Aspek	Indikator	Tema dari masalah
Elemen-elemen skripsi	Introduction	Kesulitan dalam memposisikan fokus penelitian
	Literature review	Kurang mahir dalam memperdebatkan teori atau temuan sebelumnya terkait variabel atau masalah penelitian
		Kurangnya usaha untuk membaca referensi
	Method	Organisasi pemikiran yang tidak efektif dalam menjelaskan metode penelitian
	Research results or findings	Kurangnya pemahaman terkait penyajian data berdasarkan teknik analisis data yang diadopsi
	Data discussion	Hanya menjelaskan kembali penyajian data
		Salah arah dalam membandingkan temuan saat ini dengan temuan sebelumnya
		Kurang mahir dalam menjelaskan makna temuan penelitian
	Conclusion and suggestions	Tidak ada masalah signifikan yang teridentifikasi karena mahasiswa cukup memahami bagaimana meringkas kesimpulan dan mengajukan saran penelitian
	References	Tidak ada masalah signifikan yang teridentifikasi karena ketersediaan aplikasi untuk mengutip referensi
Writing performances	Writing organization	Kemampuan rendah untuk mengatur ide-ide yang ditulis
		Tidak membuat outline sebelum menulis
		kurangnya kemampuan untuk membangun ide-ide tertulis
		kurangnya pengetahuan tentang penulisan akademik
	English use	Kesulitan dalam menggunakan kata-kata bahasa Inggris akademis
		Kesulitan dalam menggunakan kolokasi yang terkait dengan kata-kata bahasa Inggris akademis
		Hanya sedikit penggunaan konstruksi tata bahasa yang kompleks
	Citations	Tidak ada masalah signifikan yang terdeteksi karena siswa dibantu dengan aplikasi untuk mengutip
	Mechanics	Tidak ada masalah signifikan yang terdeteksi karena siswa dibantu oleh alat cek grammar

Berdasarkan tabel di atas, ditemukan bahwa masih banyak kesulitan-kesulitan yang dihadapi mahasiswa dalam menulis skripsi. Hasil analisa kebutuhan ini akan dijadikan dasar dalam pengembangan model pengayaan menulis skripsi pada tahun kedua.

Temuan penelitian seperti yang terlihat pada table di atas menunjukkan bahwa masalah inti yang ditemukan dalam studi saat ini meliputi kompleksitas wacana, genre, organisasi ide, dan penggunaan bahasa Inggris dalam penulisan tesis [1], [2] yang mengakibatkan kesulitan mahasiswa baik dalam kompetensi yang berkaitan dengan unsur skripsi maupun kegiatan menulis. Untuk mengatasi hal ini, banyak penelitian di bidang menulis akademik yang merekomendasikan bahwa mahasiswa harus belajar untuk meningkatkan metakognisi menulis mereka sebagai strategi pemecahan masalah (lihat Briesmaster [3]; Luo [4]; Pitenoee dan Modaberi [5]; Sultan dan Moqbali [6]; dan Teng [7]). Seiring dengan peningkatan metakognisi menulis, penelitian lain juga menyarankan bahwa siswa harus menemukan cara untuk meningkatkan variabel motivasi mereka, seperti menulis growth mindset [8] dan menulis self-efficacy [9]–[11].

b. Profil program pembelajaran terdahulu

Berdasarkan hasil wawancara dan FGD dengan mahasiswa dan dosen Bahasa Inggris pada perguruan tinggi di Jawa Tengah dan Papua, diketahui beberapa hal penting terkait program pembelajaran terdahulu yang berhubungan dengan kemampuan mahasiswa dalam menulis skripsi.

1. Mata kuliah pendukung untuk menulis skripsi seperti reading dan writing yang ditempuh oleh mahasiswa sejak semester 1 tidak secara langsung mengarah dan membimbing mahasiswa untuk mengembangkan kemampuannya dalam menulis skripsi. Oleh karena itu, sebaiknya setiap mata kuliah terutama yang berhubungan dengan kemampuan menulis harus mensupport kemampuan mahasiswa dalam menulis skripsi.
2. Pengajaran grammar seharusnya berbasis genre sehingga dapat mendukung kemampuan mahasiswa dalam

menulis skripsi. Sedangkan saat ini mayoritas pembelajaran grammar di perguruan tinggi tidak merujuk pada genre based approach.

3. Pada beberapa kasus, mahasiswa menganggap bahwa salah satu kendala dalam menulis skripsi adalah proses penyampaian ilmu dari mata kuliah pendukung yang belum tersampaikan dengan maksimal, hal ini berkaitan dengan metode pengajaran yang digunakan oleh dosen.
4. Sebaiknya ada mata kuliah khusus untuk mengembangkan kemampuan menulis akademik mahasiswa seperti writing for publication yang secara rinci mengajarkan ilmu-ilmu yang dibutuhkan mahasiswa untuk menulis skripsi maupun artikel penelitian.

c. Target capaian pembelajaran

Adapun target capaian pembelajaran yang menggambarkan target kemampuan mahasiswa dalam menulis terutama dalam menulis skripsi adalah sebagai berikut:

Tabel 3. Kemampuan menulis

Writing performance
Organisasi Penulisan (koherensi, kohesi, kalimat & paragraf yang jelas/ runtut).
Penggunaan Bahasa (diksi, variasi kosakata, tata-bahasa/ grammar, konjungsi, preposisi).
Pengutipan (jumlah kutipan, kualitas kutipan, kesesuaian kutipan dengan daftar pustaka).
Mekanika (ejaan benar/ bebas typo, dan penulisan sesuai format proposal).

Tabel 4. Rhetorical moves

	Rhetorical moves
	Latar belakang penelitian menarik dan relevan dengan isu terkini.
	Celah penelitian/ research gap dengan argumen yang meyakinkan.
	Diskusi penelitian yang mengakomodasi simpulan, evaluasi, hubungan dengan penelitian sebelumnya, interpretasi/ penjelasan, implikasi.
	Pertanyaan penelitian yang jelas & terarah.
	Posisi penelitian (menjelaskan penelitian yang ditulis berbeda dengan penelitian-penelitian sebelumnya).
	Hasil penelitian yang dideskripsikan secara runtut dan jelas.
	Prosedur pengukuran variable/ instrumen penelitian.
	Evaluasi penelitian sebelumnya (mengambil dari sumber referensi berkualitas dalam kurun waktu 5-10 tahun).
	Landasan teori yang sistematis dan jelas dengan referensi dalam kurun waktu 5-10 tahun.
	Prosedur analisis data yang dijelaskan secara runtut dan jelas.
	Tujuan penelitian yang layak dan terfokus.
	Prosedur pemerolehan data yang dideskripsikan dengan jelas.
	Manfaat penelitian yang relevan dengan keadaan terkini.

2. Investigasi Wacana Spesialis

a. Data ragam wacana spesifik menulis akademik (skripsi)

Temuan yang berkaitan dengan ragam wacana spesifik yang berkaitan penulisan skripsi menunjukkan fakta-fakta sebagi berikut. Sebagian besar mahasiswa memahami dan mengerti bahwa skripsi adalah sebuah teks ilmiah yang memiliki unit-unit wacana tertentu di dalamnya. Pemahaman tentang struktur teks skripsi ini sudah baik dilihat dari penyusunan beberapa bab sebagai bagian dari skripsi yang sudah bagus dan benar, seperti bab introduction, theoretical review, research methods, findings and discussion, conclusion dan recommendation, dan reference. Selain itu, mahasiswa juga memahami fungsi sosial dari setiap unit ini.

b. Data keterampilan olah bahasa untuk ragam wacana spesifik menulis akademik

Meskipun sebagian besar mahasiswa menunjukkan kemampuan dan keterampilan yang bagus dalam menyusun unit-unit wacana untuk membentuk sebuah teks skripsi, sebagian dari mereka masih menunjukkan beberapa kekurangan dalam hal olah tata gramatika dan pemilihan kosa kata. Aspek olah gramatika yang ditunjukkan oleh sebagian besar para mahasiswa adalah bentuk tense yang sesuai dengan fungsi sosial unit wacana. Sebagai misal, unit introduction cenderung memiliki kemiripan bentuk seperti teks report, maka olah tata gramatika harus sesuai dengan kualitas gramatika yang dibutuhkan oleh report, dalam hal ini adalah bentuk simple present tense. Namun demikian, untuk bagian metodologi, maka simple past tense yang dibutuhkan, karena bagian ini memiliki fungsi sosial meyajikan peristiwa metodologi yang terjadi di masa lampau. Selain itu, jika keterampilan menulis untuk thesis ini kurang kuat maka kecenderungan terjadinya plagiarism menjadi besar.

D. **STATUS LUARAN**: Tuliskan jenis, identitas dan status ketercapaian setiap luaran wajib dan luaran tambahan (jika ada) yang dijanjikan pada tahun pelaksanaan penelitian. Jenis luaran dapat berupa publikasi, perolehan kekayaan intelektual, hasil pengujian atau luaran lainnya yang telah dijanjikan pada proposal. Uraian status luaran harus didukung dengan bukti kemajuan ketercapaian luaran sesuai dengan luaran yang dijanjikan. Lengkapi isian jenis luaran yang dijanjikan serta mengunggah bukti dokumen ketercapaian luaran wajib dan luaran tambahan melalui Simlitabmas mengikuti format sebagaimana terlihat pada bagian isian luaran

Penelitian pada tahun 1 ini memiliki beberapa luaran pada tahun pertama. Berikut ini adalah jenis dan status luaran penelitian yang telah tercapai pada tahun pertama:

No	Hasil/Luaran Penelitian	Keterangan	Status / persentase
1	1 Publikasi hasil penelitian pada jurnal internasional terindeks scopus	1 publikasi artikel hasil penelitian pada *International Journal of Instruction*	In review
2.	2. Publikasi hasil penelitian pada jurnal internasional terindeks scopus	2. publikasi artikel hasil penelitian pada Journal Teflin	submission
3	2 Publikasi hasil penelitian pada prosiding terindeks bereputasi	3 Publikasi artikel hasil penelitian pada prosiding Atlantis Press (internasional bereputasi)	In editing

E**. PERAN MITRA:** Tuliskan realisasi kerjasama dan kontribusi Mitra baik *in-kind* maupun *in-cash* (jika ada). Bukti pendukung realisasi kerjasama dan realisasi kontribusi mitra dilaporkan sesuai dengan kondisi yang sebenarnya. Bukti dokumen realisasi kerjasama dengan Mitra diunggah melalui Simlitabmas mengikuti format sebagaimana terlihat pada bagian isian mitra

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F. **KENDALA PELAKSANAAN PENELITIAN**: Tuliskan kesulitan atau hambatan yang dihadapi selama melakukan penelitian dan mencapai luaran yang dijanjikan, termasuk penjelasan jika pelaksanaan penelitian dan luaran penelitian tidak sesuai dengan yang direncanakan atau dijanjikan.

Dalam melaksanakan penelitian ini terdapat beberapa kendala yang dihadapi oleh tim peneliti. Adapun kendala-kendala tersebut adalah sebagai berikut:

1. Masa pandemi COVID-19 mengakibatkan pembatasan dalam pelaksanaan penelitian terutama saat pengambilan data. Pengambilan data dari mahasiswa Universitas Musamus awalnya dilakukan secara offline dimana tim peneliti dari Jawa Tengah akan berangkat ke Merauke. Akan tetapi, kondisi pandemic dan kenaikan kasus COVID-19 yang signifikan serta pemberlakuan PPKM saat itu mengakibatkan rencana pengambilan data secara offline tidak dapat dilaksanakan. Namun, kendala ini masih bisa diatasi dengan memanfaatkan media online. Pengumpulan data kuesioner dilakukan menggunakan google form. Untuk FGD dengan partisipan di Jawa Tengah tetap dilakukan secara offline dengan memperhatikan protocol kesehatan yang ketat, dan FGD dengan partisipan di Papua online menggunakan media zoom.
2. Luaran wajib penelitian berupa publikasi artikel pada jurnal terindeks scopus sudah pada tahap revisi pertama dan saat ini sedang dalam proses review kembali.

G. **RENCANA TINDAK LANJUT PENELITIAN:** Tuliskan dan uraikan rencana tindaklanjut penelitian selanjutnya dengan melihat hasil penelitian yang telah diperoleh. Jika ada target yang belum diselesaikan pada akhir tahun pelaksanaan penelitian, pada bagian ini dapat dituliskan rencana penyelesaian target yang belum tercapai tersebut.

Berangkat dari kondisi capaian pelaksanaan penelitian pada tahun pertama, maka langkah berikutnya yang akan dilakukan dalam penelitian ini adalah persiapan prosedur-prosedur penelitian pada tahun kedua sebagai berikut.

1. Menyusun proposal penelitian untuk tahun kedua;
2. Pengembangan kurikulum yang meliputi pemfokusan program pembelajaran, penentuan konten program pengajaran, perencanaan silabus, pengembangan materi ajar, evaluasi konten dan program pembelajaran;
3. Implikasi dan diseminasi hasil penelitian berupa model pengayaan Bahasa Inggris untuk menuis skripsi dilakukkan implementasi dan diseminasi di UNS dan UNMUS
4. Menyusun publikasi prosiding seminar international dan publikasi jurnal internasional.terindeks scopus
5. Menyusun buku/modul pengayaan menulis skripsi
6. Mendaftarkan HKI produk-produk hasil penelitian.

H. DAFTAR PUSTAKA: Penyusunan Daftar Pustaka berdasarkan sistem nomor sesuai dengan urutan pengutipan. Hanya pustaka yang disitasi pada laporan akhir yang dicantumkan dalam Daftar Pustaka.

1. C. M. Kiriakos and J. Tienari, “Academic writing as love,” Manag. Learn., vol. 49, no. 3, pp. 263–277, 2018, doi: 10.1177/1350507617753560.
2. M. Briesmaster, “Coherence and cohesion in EFL students’ writing production : The impact of a metacognition-based intervention,” *Ikala*, vol. 22, no. 1, pp. 183–202, 2017, doi: 10.17533/udea.ikala.v22n02a02.
3. Y. Luo, “Engineering majors’ metacognitive strategy use in EFL writing: A case study within the Web-based environments,” *World Trans. Eng. Technol. Educ.*, vol. 15, no. 4, pp. 323–330, 2017.
4. M. R. Pitenoee and A. Modaberi, “The effect of cognitive and metacognitive writing strategies on content of the iranian intermediate efl learners’ writing,” *J. Lang. Teach. Res.*, vol. 8, no. 3, pp. 594–600, 2017, doi: 10.17507/jltr.0803.19.
5. I. Sultan and A. Moqbali, “Metacognitive writing strategies used by Omani grade twelve students,” *Int. J. Learn. Teach. Educ. Res.*, vol. 19, no. 8, pp. 214–232, 2020, doi: 10.26803/ijlter.19.8.12.
6. F. Teng, “Immediate and delayed effects of embedded metacognitive instruction on Chinese EFL students’ English writing and regulation of cognition,” *Think. Ski. Creat.*, vol. 22, pp. 289–302, 2016, doi: 10.1016/j.tsc.2016.06.005.
7. B. Bai and J. Wang, “The role of growth mindset, self-efficacy and intrinsic value in self-regulated learning and English language learning achievements,” *Lang. Teach. Res.*, pp. 1–22, 2020, doi: 10.1177/1362168820933190.
8. C. J. Callinan, E. van der Zee, and G. Wilson, “Developing essay writing skills: an evaluation of the modelling behaviour method and the influence of student self-efficacy,” *J. Furth. High. Educ.*, vol. 42, no. 5, pp. 608–622, 2018, doi: 10.1080/0309877X.2017.1302564.
9. M. Huerta, P. Goodson, M. Beigi, and D. Chlup, “Graduate students as academic writers: writing anxiety, self-efficacy and emotional intelligence,” *High. Educ. Res. Dev.*, vol. 36, no. 4, pp. 716–729, 2017, doi: 10.1080/07294360.2016.1238881.
10. C. Vincent, É. Tremblay-Wragg, C. Déri, I. Plante, and S. Mathieu Chartier, “How writing retreats represent an ideal opportunity to enhance PhD candidates’ writing self-efficacy and self-regulation,” *Teach. High. Educ.*, pp. 1–20, 2021, doi: 10.1080/13562517.2021.1918661.
11. W. Chen and S. Hapgood, “Understanding knowledge, participation and learning in L2 collaborative writing: A metacognitive theory perspective,” *Lang. Teach. Res.*, vol. 25, no. 2, pp. 256–281, 2021, doi: 10.1177/1362168819837560.

Dokumen pendukung luaran Wajib #1

Luaran dijanjikan: Artikel di Jurnal Internasional Terindeks di Pengindeks Bereputasi

Target: Accepted
Dicapai: Sedang direview

Dokumen wajib diunggah:
1. Naskah artikel
2. Bukti sedang direview

Dokumen sudah diunggah:
1. Naskah artikel
2. Bukti sedang direview

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Judul artikel: Students' Profiles of Academic Writing: The Interplay among Academic Writing Growth Mindsets, Self-Efficacy, and Metacognition

Students' Profiles of Academic Writing: The Interplay among Academic Writing Growth Mindsets, Self-Efficacy, and Metacognition

It has been a consensus that growth mindsets, self-efficacy, and metacognition have played their respective roles in academic writing. However, very few previous studies have investigated the contributions of those variables all together in single studies. Thus, the present study sought to examine the interplay among academic writing growth mindsets, self-efficacy, and metacognition concomitantly as a single study by formulating seven hypotheses. Using PLS-SEM, this quantitative study conveniently involved 464 undergraduate students from several majors, working with undergraduate theses. A valid and reliable questionnaire negotiating academic writing growth mindsets, self-efficacy, and metacognition was copied into the Google form, and the links were distributed to the respondents. Results demonstrated that, in the academic writing context, positive and significant relationships were encountered between growth mindsets and ideation self-efficacy, growth mindsets and convention self-efficacy, growth mindsets and self-regulation self-efficacy, ideation self-efficacy and convention self-efficacy, ideation self-efficacy and self-regulation self-efficacy, convention self-efficacy and self-regulation self-efficacy, and self-regulation self-efficacy and metacognition. Self-regulation self-efficacy mediated the correlation between growth mindsets and metacognition. Future's studies are expected to develop a structural model of academic writing factors by incorporating the other influential variable, e.g. critical thinking skills, because it might contribute to differences in academic writing skills.

Keywords: undergraduate thesis, academic writing, growth mindsets, self-efficacy, metacognition

INTRODUCTION

In general, academic writing conceptually depicts a form of interactive communication between a writer and readers, in which the writer addresses an issue in detail and in a scientific way with the aim of providing the readers with credible information (Çandarl et al., 2015). On the writer's side, academic writing encompasses rational and intellectual activities in terms of processing and transferring knowledge. Those processes are complex in nature due to the consecutive works on idea brainstorming, planning, drawing the conceptual framework of what to write out, writing a draft, proofreading, and making revisions (Csizér & Tankó, 2017; Kiriakos & Tienari, 2018). Practically, not only does an academic writer have to be accurate and fluent in the uses of academic words, collocations, phrases, and grammatical complexities (Alhassan & Wood, 2015; Ansarifar et al., 2018), he/she is also demanded to be skilled at mapping references related to the addressed discourse (Cumming et al., 2016), making arguments with good and comprehensible idea organizations pertinent to the on-going discourse, and showcasing his/her critical reasoning (Ebadi & Rahimi, 2018).

At the tertiary level, among undergraduate students, academic writing is generally affiliated with research-based writing or the so-called thesis writing, which is the last phase they have to pass to receive their bachelor's degrees (Weaver et al., 2016). Wu et

al. (2017) delineated that there are six major steps the undergraduate students take in writing theses. The first is to select the orientation of the research area by engaging supervisors in discussions to decide on the fixed area of research. The second is to determine the research's topic. The third is to review relevant literature and conduct the research project. The fourth is to write out the initial drafts of theses. The fifth is to make revisions and finalize the works. The sixth is to take thesis exams. Each stage of research-based academic writing has its own complexities (Huerta et al., 2016). Oftentimes, students face difficulties due to insufficient knowledge about the styles of academic writing and because of ineffective compositions in the domains of both idea organizations and language structures (Zaki & Yunus, 2015). Also, the processes of data presentation and discussions very often trap students in rumination. Hence, the persistence of students' prolonged and active engagement in dealing with all stages of academic writing alongside their detailed contents is of importance (Altınmakas & Bayyurt, 2019). Guraya and Guraya (2017) added that the levels of students' academic writing skills and their understanding of research ethics also determine their qualities and success in academic writing.

Learning from prior studies, there could be identified some external factors in the form of tutors' or supervisors' interventions which contribute to the enhancement of students' academic writing skills. A study executed by Adamson et al. (2019) demonstrated the importance of supervisors' roles in helping students write out academic works (in this case, undergraduate, graduate, and postgraduate theses). Their study informed that the supervisors' roles such as scaffolding students, holding continuous discussions with students to help them deal with English and non-English resources, providing corrective and metalinguistic feedback in a direct way, and assisting students in mapping their concepts become critical factors that support students' success in academic writing. The study undertaken by Kuiken and Vedder (2020) echoed that the provision of a remedial program to intensively train students whose academic writing proficiency has not reached the expected standards is contributive towards the advancement of their academic writing skills. In respect of helping students organize their ideas for writing, Miller and Pessoa (2016) recommended that students be taught explicitly. Subsequently, the study conducted by Suen (2021) portrayed that a research-based academic writing workshop is contributive to the increase in students' academic writing skills, wherein their participants could perceive the extent to which academic writing knowledge and skills are transferrable.

Besides external factors, the complex nature of academic writing which entails logical and critical processes of ideational and language use-related organizations also calls for students' strong internal factors such as growth mindsets, self-efficacy, and metacognition (Bai et al., 2020; Negretti & McGrath, 2018; Vincent et al., 2021). First, a growth mindset refers to the belief that intelligence can be forged and improved through efforts (Blackwell et al., 2007). A study conducted by Truax (2018) indicated that the inclusion of a growth mindset in teacher's feedback alongside the provision of truth-based compliments contributes to an increase in students' writing motivation. Second, self-efficacy is part of a person's motivational dimension, and it represents a person's belief in his own ability to produce or achieve the desired results from the hard

work he invests (Bandura, 1997; Mitchell et al., 2021). Studies conducted by Huerta et al. (2016) and Vincent et al. (2021) portrayed that increasing confidence in ones' abilities or self-efficacy to write in certain situations is thus regarded as an important effort to improve their writing performance. Third, metacognition is defined as students' awareness of their own thinking processes, in which they are able to reflect on their knowledge and the processes of controlling their own cognitive or thinking activities effectively to achieve the expected learning goals (Chen & Hapgood, 2021; Flavell, 1979; Karlen & Compagnoni, 2017; Teng, 2019). Metacognition, as a higher-order cognitive process, is an important factor that influences writing outcomes because it trains students to develop specific strategies required to deal with each component of writing (Luo, 2017; Pitenoee & Modaberi, 2017; Sultan & Moqbali, 2020).

Since the last five years, prior studies on writing, which worked on the variables of growth mindsets, self-efficacy, and metacognition, have been conducted, and such studies have been very contributive to us and provided us with adequate knowledge and data about the aforementioned three variables' roles in writing. Nonetheless, those studies seem to have addressed the three variables as single variables in respective studies (e.g. Chen & Zhang, 2019; Grenner et al., 2021; Howe & Wig, 2017; Jafarigohar & Mortazavi, 2016; Lee & Mak, 2018; Lee & Evans, 2019; Murtadho, 2021; Ramadhanti et al., 2020; Sultan & Moqbali, 2020; Truax, 2018); they have examined the interrelationships of mere two out of the three variables (e.g. Bai & Guo, 2018; Colognesi et al., 2020; Farahian & Avarzamani, 2018; Limpo & Alves, 2017; Pitenoee & Modaberi, 2017; Vincent et al., 2021); or they have scrutinized the interrelatedness of respective three variables with other variables (e.g. Alberth, 2019; Aliyu et al., 2016; Chakma et al., 2021; Escorcia & Ros, 2019; Loughlin & Griffith, 2020; Puryantoa et al., 2021; Reig, 2020; Sanchez et al., 2019; Sudirman et al., 2020). However, to the best of our knowledge, no prior studies have been oriented towards conducting an exploratory analysis of the interplay among academic writing growth mindsets, self-efficacy, and metacognition in the context of undergraduate thesis writing as a single study. Also, no previous studies with the foregoing aim could have been traced from the publications of Indonesian academicians thus far. Thus, the present study seeks to fulfil this literature's void by conducting an exploratory analysis of the interplay among academic writing growth mindsets, self-efficacy, and metacognition in the context of tertiary students from Indonesian population who are dealing with undergraduate thesis writing.

Growth Mindset

One of the factors impeding the development of students' writing skills is the so-called fixed mindset (Dweck, 2006). Such a mindset does not allow students to take account of their conceivable potential to boost their writing competencies to a higher level. Students should realize the nature of a mindset as something fluid in which it can be constructed and co-constructed to help motivate them to reach their ideal writing skills. Dweck (2006) asserted that a mindset is flexible in a way that it can change and be controlled as desirable, thus students can opt to have a growth mindset in a certain realm to reach their ideal mastery. To be defined, a growth mindset refers to the belief that intelligence can be forged and improved through efforts, and it is a significant predictor

of the use of general learning strategies (Blackwell et al., 2007). Students' growth mindsets can be a motivational factor for their learning development in light of that their growth mindsets will lead them to being more confident in learning after they review their latest learning outcomes. The essence of growth mindsets is critical to writing because the complexity of writing processes (e.g. planning, drafting, proofreading, and revising) will cause students to be vulnerable to give up if they find it difficult to work on those writing steps. With a growth mindset, students will see wisely the complex processes of writing as the stages of learning they have to take part in. Learning from a study conducted by Truax (2018), students' growth mindsets can be enhanced by teachers' motivational talk and written feedback. Furthermore, once students have growth mindsets, they can invest their self-regulated learning efforts to reach better writing skills (Bai et al., 2020).

Self-Efficacy

Self-efficacy is part of a person's motivational dimension, and it represents a person's belief in his own ability to produce or achieve the desired results from the hard work he invests (Bandura, 1997; Mitchell et al., 2021). A person with sufficient efficacy will be confident in his ability to plan goals, execute goal-based works, and produce a representative condition for achieving these goals (Bai & Guo, 2018). According to several experts who dedicate their works to the field of self-efficacy, self-efficacy is constructed by four indicators, namely active experiences, vicarious experiences, social persuasion, and people's emotional and physiological states. Active experiences portray previously successful performances in a similar field. Vicarious experiences are affiliated with observing other people who perform similar tasks. Social persuasion occurs when other people express confidence in a person's abilities, or when they provide adequate feedback on that person's performance. In turn, emotional and physiological states in this case represent a person's emotional response to a task he is working on (Bandura, 2012; Grenner et al., 2021; Lee & Evans, 2019; Schunk & Usher, 2012).

Self-efficacy is the primary motivating factor for students, and it is an indicator that supports students' involvement in learning. In terms of writing, different approaches to students' written works may be based on their diverse levels of self-efficacy or confidence in their abilities to work on the papers (Callinan et al., 2018). Writing self-efficacy is defined as anything inherent in writers' beliefs about their ability to write, such as abilities that require multiple skills, strategies, and knowledge in a specific context (Mitchell, Harrigan, Stefansson, et al., 2017). Increasing confidence in ones' abilities or self-efficacy to write in certain situations is thus regarded as an important effort to improve their writing performance (Huerta et al., 2016; Vincent et al., 2021). Bruning et al. (2013) posited three constructs of self-efficacy for writing which fall into ideation, convention, and self-regulation. The first depicts self-efficacy in terms of creating and shaping the concepts, principles, and reasoning that serve as the foundation for writing. The second demonstrates self-efficacy in terms of improving linguistic skills, such as when writers express their ideas using words, syntactic structures, and the organization of language discourse. The third represents the writer's self-efficacy in

terms of self-management and affective control, and this self-efficacy includes assessments of the cognitive and linguistic features of the writing produced. According to research, affective or motivational factors such as self-efficacy are strongly related to improving writing skills (Sabti et al., 2019). A study conducted by Han and Hiver (2018) also supports the same condition.

Metacognition

Metacognition is students' awareness of their own thinking processes, in which they are able to reflect on their knowledge, and the processes of controlling their own cognitive or thinking activities effectively to achieve the expected learning goals (Chen & Hapgood, 2021; Flavell, 1979; Karlen & Compagnoni, 2017; Teng, 2019). Metacognition, in some ways, also represents students' independent skills at planning, monitoring, controlling, evaluating, and reflecting on the results of learning evaluations (Bassett, 2016; Cer, 2019). Specifically, metacognition is the embodiment of two main indicators known as metacognitive knowledge and regulation. The former encompasses declarative knowledge such as the awareness of what is already known, procedural knowledge associated with the awareness of how to apply what is already known, and conditional knowledge pertinent to the awareness of when and why making use of what is already known (Chen & Hapgood, 2021). Furthermore, the latter is affiliated with three abilities extending to planning where learners are able to select appropriate strategies and collect learning resources, monitoring in the sense that learners apply certain strategies to observe the effectiveness of learning processes, and evaluating by which learners are capable of measuring learning outcomes to make decisions on the best way to conduct further learning (Teng, 2019).

Metacognition serves as a problem-solving strategy for students when writing (Briesmaster, 2017; Teng, 2016). From a cognitive standpoint, writing is viewed as a complex recursive process that includes interactive stages of planning, designing an outline, producing a written product, and revising a written product. All of these processes are related to students' conscious control over activities such as planning, monitoring, assessing, and self-regulating. Metacognition, as a higher-order cognitive process, is an important factor that influences writing outcomes because it trains students to develop specific strategies required to deal with each component of writing (Luo, 2017; Pitenoee & Modaberi, 2017; Sultan & Moqbali, 2020). Learners with good metacognition will be able to build effective interactions, critical arguments, and rationalize their arguments. The aforesaid competencies are important components in writing (Teng, 2019). Furthermore, metacognition assists students in planning, monitoring, and evaluating their written work independently (Teng, 2019). Escorcia and Ros (2019) explained that when students are good at applying metacognitive strategies, they will be able to create written products that are based on readers’ expectations, both in terms of genre targets and the flow of written contents. They will also be aware of the various characteristics and ideational structures of good writing (Aliyu et al., 2016).

Theoretical Interrelationships among Growth Mindset, Self-Efficacy, and Metacognition

6 *Students' Profiles of Academic Writing: The Interplay among Academic Writing Growth Mindsets, Self-Efficacy, and Metacognition*

Many studies in the different realms of academic writing have demonstrated the interrelatedness among growth mindset, self-efficacy, and metacognition. Reflected on a study conducted by Zander et al. (2018), people with growth mindsets likely have a higher level of self-efficacy. In the context of learning, the foregoing premise is supported by Rhew et al. (2018) as they explained that students with growth mindsets will perceive their learning experiences and the given feedback as the sources to learn better and to advance the expected outcomes of their learning trajectories. Hass et al. (2016) suggested that the constructs of growth mindsets and those of self-efficacy have been correlative in nature, thus they proposed that the measurement of growth mindsets as a study's variable should directly incorporate the theoretical indicators of self-efficacy. Subsequently, the studies conducted by Hayat et al. (2020) and Oyelekan et al. (2019) demonstrated the correlation between self-efficacy and metacognition. The foregoing correlation is also supported by Akamatsu et al., (2019) who revealed that self-efficacy mediates the relationship between learning behaviour and metacognition. Furthermore, a study conducted by Bai and Wang (2020) showcased that a motivational variable, such as a growth mindset, has also been proven to strongly predict self-regulated learning whose theoretical constructs exist in the same dimension of metacognition. The foregoing relationship has been explained by the implicit theory of intelligence, in which ones whose mindsets are fluid, in a way that they put their trust in their capabilities to make more learning efforts, become more competent at metacognition or metacognitive strategies (Blackwell et al., 2007; Yeager & Dweck, 2012).

The theoretical interplay among growth mindsets, self-efficacy, and metacognition as portrayed above enables us to formulate some hypotheses to examine the interrelationships of those variables in our study's context, namely undergraduate thesis academic writing. So far, no prior studies have been conducted to scrutinize the complete interrelationships among the variables of growth mindsets, self-efficacy, and metacognition in the field of undergraduate thesis academic writing as single studies. To formulate detailed hypotheses, we follow Dweck's (2006) explanations that the variable of academic writing self-efficacy falls into three sub-variables, namely self-efficacy for ideation, convention, and self-regulation. Hence, we seek to conduct an exploratory analysis by proposing the following hypotheses:

H1: Academic writing growth mindsets correlate with self-efficacy for academic writing ideation.

H2: Academic writing growth mindsets have a relationship with self-efficacy for academic writing convention.

H3: Academic writing growth mindsets correlate with self-efficacy for academic writing self-regulation.

H4: Self-efficacy for academic writing ideation has a relationship with on self-efficacy for academic writing convention.

H5: Self-efficacy for academic writing ideation correlates with self-efficacy for academic writing regulation.

H6: Self-efficacy for academic writing convention has a relationship with self-efficacy for academic writing regulation

H7: Self-efficacy for academic writing regulation correlates with academic writing metacognition.

METHOD

The current study sought to conduct an exploratory analysis of academic writing growth mindsets, self-efficacy, and metacognitions by examining seven hypotheses already formulated. The conceptual model grounded in the formulated hypotheses can be seen in figure 1.

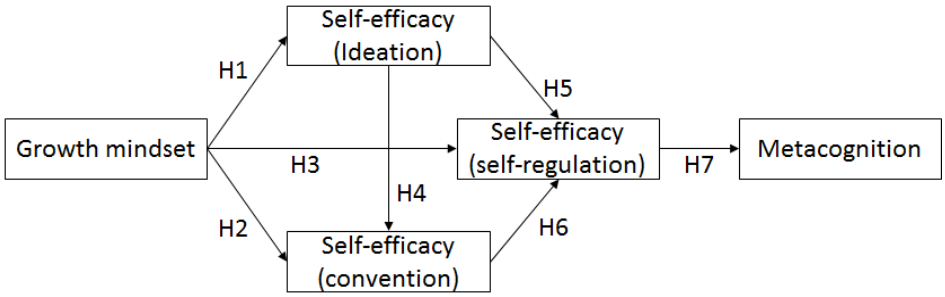

Figure 1
Conceptual Model

Respondents and Data Collection

This study employed a purposive sampling technique by targeting a population of 500 undergraduate students. The purposive sampling criterion was central to the students who were writing undergraduate theses during the COVID-19 pandemic. The targeted respondents were the students from varied departments at various universities in the provinces of Central Java and Papua, Indonesia. From the province of Central Java, there were four state universities and two private universities involved. In the province of Papua, there were two state universities incorporated. Out of their population, the student respondents were selected by distributing the links of online questionnaire already copied to the Google form. In so doing, the heads of each department, where the student respondents studied, helped us to distribute the questionnaire's links to the student respondents. Based on the distributed online questionnaire, we obtained responses from 464 students. Table 1 displays the demographic data of the student respondents.

Table 1
Demographic Information

		Number	%
Gender	Male	83	17.9
	Female	381	82.1

Age	18 years	1	0.2
	19 years	10	2.2
	20 years	28	6
	21 years	105	22.6
	22 years	184	39.7
	>22 years	134	28.9
Academic fields	Literature	220	47.4
	Education	241	52.6
Time spent on the social media (on a daily basis)	< 1 hour	50	10.8
	1-2 hours	71	15.3
	2-3 hours	75	16.2
	3-4 hours	89	19.2
	> 4 hours	179	38.6
Time spent to read a book or research article (on a daily basis)	< 1 hour	134	28.9
	1-2 hours	189	40.7
	2-3 hours	90	19.4
	3-4 hours	39	8.4
	> 4 hours	12	2.6
Time spent to use notebook/ laptop (on a daily basis)	< 1 hour	48	10.3
	1-2 hours	111	23.9
	2-3 hours	82	17.7
	3-4 hours	89	19.2
	> 4 hours	134	28.9

The demographic data in Table 1 show the characteristics of student respondents. In this study, there were 464 student respondents consisting of 183 males and 281 females. They aged from 19 to more than 22 years old. We also explored other demographic components related to their daily activities in accessing social media, reading books or research articles, and time spent using laptops or notebooks. As displayed in table 1, the ratio of daily time spent by the student respondents to access social media was proven to be more than the time spent for reading books or research articles.

Measures

We used an instrument in the form of an online questionnaire for data collection. The questionnaire consisted of three parts, namely the independent variable (exogenous), the dependent variable (endogenous), and the demographic variable. One of the exogenous variables incorporated in this study was growth mindsets (GM). The variable, functioned as an endogenous variable alongside an exogenous variable as well, was writing self-efficacy whose constructs comprised self-efficacy for ideation (SEi), self-efficacy for convention (SEc), and self-efficacy for self-regulation (SEsr). The variable of writing metacognition played a role as an endogenous variable. The demographic variable encompassed gender, age, provinces of the universities' origins, daily time spent for reading, and daily time spent for using laptops or netbooks. The total items of the questionnaire were 25 items. In detail, the 25 items represented exogenous and endogenous variables which were measured on an interval scale using a 5-point Likert scale (ranging from strongly disagree to strongly agree). The instrument was a

combination of several questionnaires adapted from previous studies conducted by Cooper et al. (2020) for the measure of growth mindsets, Bruning et al. (2013) for the measure of writing self-efficacy, and Karlen (2017) for the measure of writing meta-cognition. The expert validation and pilot testing of the instrument were carried out. In doing so, a couple of linguists were asked to review and revise ambiguous and unclear items. Subsequently, pilot testing was carried out by distributing a prototype questionnaire to 60 students. The piloting results were further analyzed using SPSS 23 to test the reliability and validity. The results of reliability test demonstrated that the score of Cronbach's Alpha was of 0.823, and the Bivarrate Pearson computation assigned to examine the validity resulted in the scores of r in the range from 0.61 to 0.83 with an r table of 0.138. The foregoing showcased that a good reliability score had been achieved, and the validity scores of all items were categorized as valid. The instrument was subsequently distributed online using the Google form.

RESULTS

Internal Consistency Measures for Measurement Model

This study applied a quantitative approach by deploying the Partial Least Squares Structural Equation Modelling (PLS-SEM) analysis (Hair Jr et al., 2014). The initial assessment of the model was conducted with the aim of performing a confirmatory factor analysis (CFA) on the type of reflective model to assess item loadings (Hair Jr et al., 2014). All item loadings of the five constructs (see Figure 1) showed values above 0.5 according to the minimum limit of item loadings (Hair Jr et al., 2016; Kline, 2015). Item loadings on the growth mindset construct ranged from 0.657 to 0.823; those of self-efficacy for ideation ranged from 0.808 to 0.873; those of self-efficacy for convention ranged from 0.798 to 0.841; those of self-efficacy for self-regulation ranged from 0.637 to 0.750; and those of metacognition ranged from 0.708 to 0.761. The implication of this figure demonstrated that the convergent validity had been achieved. The construct validity and reliability can be viewed in table 2.

Table 2
Construct validity and reliability

Construct	Cronbach's Alpha	rho_A	Composite Reliability	AVE
GM	0.733	0.784	0.825	0.543
MC	0.791	0.794	0.857	0.545
SEC	0.759	0.764	0.861	0.674
SEI	0.806	0.812	0.885	0.721
SESR	0.752	0.760	0.834	0.502

The next stage in the inner model evaluation was to assess the discriminant validity using the Heterotrait-Monotrait-Ratio (HTMT) assessment. This stage was taken to ensure that each construct was different from one another. The recommended threshold explained that the values might not exceed 0.85 (Henseler et al., 2015). The values obtained based on HTMT (see Table 3) showed a range of values from 0.239 to 0.837.

The foregoing confirmed that each construct in the model was different from one another. In conclusion, the discriminant validity had been achieved.

Table 3
Heterotrait-Monotrait-Ratio (HTMT)

Construct	GM	MC	SEC	SEI	SESR
GM					
MC	0.663				
SEC	0.424	0.739			
SEI	0.239	0.623	0.837		
SESR	0.501	0.759	0.719	0.561	

Multicollinearity

The analysis was further carried out using the Collinearity test. This stage was taken to verify whether, or not, there was multicollinearity in the variance inflation factors (VIF). This stage was critical to ensure that there was no multicollinearity because it could have an impact on the reliability and validity of the patch significance test (Kock, 2016). The recommended threshold for VIF might not exceed 3.3 (Hair Jr et al., 2016; Kock, 2016). The VIF obtained (see Table 4) demonstrated the gains between 1.000 and 1.921 for the five constructs. Accordingly, it could be concluded that, based on the Collinearity test, the resulting model did not have multicollinearity.

Table 4
Collinearity

Construct	GM	MC	SEC	SEI	SESR
GM			1.046	1.000	1.135
MC					
SEC					1.921
SEI			1.046		1.771
SESR		1.000			

Results of Path Analysis

The final stage of model analysis was the inner model evaluation through the bootstrapping stage with a significance level of 0.05 as shown in the graphical output in Figure 2.

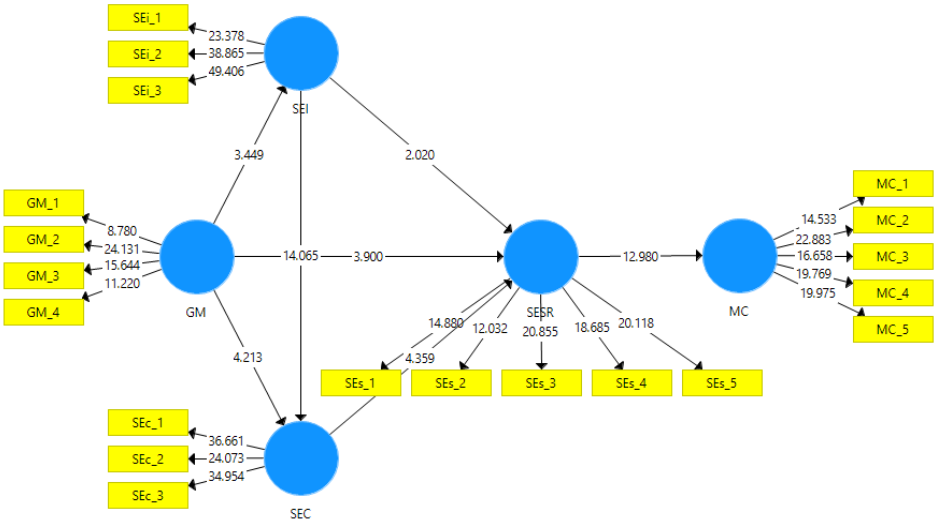

Figure 2
Bootstrap results for path analysis

The analysis used path coefficient/hypotheses examination and effect size determination (Hair Jr et al., 2016). Furthermore, in Table 5, paths analysis showed the standardized path coefficient at the level of a strong positive relationship (+1) (Hair Jr et al., 2016). In addition, the significance level used was 0.05, so that the hypothesis could be accepted with the t-Value criteria of > 1.96 (Wong, 2013). The analysis results showed that all hypotheses were accepted. For example, the relationships between growth mindsets and self-efficacy for ideation, convention, and self-regulation were positively significant as indicated by ($\beta = 0.20$; $p < 0.05$; $t = 3.449$; supporting H1); ($\beta = 0.21$; $p < 0.05$; $t = 4.213$; supporting H2); and ($\beta = 0.23$; $p < 0.05$; $t = 3.900$; supporting H3). Subsequently, the relationships between self-efficacy for ideation and self-efficacy for convention and between self-efficacy for ideation and self-efficacy for self-regulation were positively significant as demonstrated by ($\beta = 0.61$; $p < 0.05$; $t = 14.065$; supporting H4) and ($\beta = 0.15$; $p < 0.05$; $t = 2.020$; supporting H5). Furthermore, the relationship between self-efficacy for convention and self-efficacy for self-regulation was positively significant as indicated by ($\beta = 0.37$; $p < 0.05$; $t = 4.359$; supporting H6). Lastly, the relationship between self-efficacy for self-regulation and metacognition was also positively significant as demonstrated by ($\beta = 0.59$; $p < 0.05$; $t = 12.980$; supporting H7). Subsequently, based on the effect size (f2), the 4th, 6th, and 7th hypotheses had large effect sizes, and the remaining hypotheses had medium effect sizes based on the parameter values of .02, .15, and .35 which indicated small, medium, and large effects (Hair Jr et al., 2014). Finally, the obtained significant results were convincingly supported by the confidence level of 95% which had a minor error margin of 5%.

Table 5
Results of paths analysis

	Path	Beta Value	Std. Error	t- Value	p- Values	f^2	Results
H1	GM -> SEI	0.209	0.061	3.449	0.001	0.046	Supported
H2	GM -> SEC	0.216	0.051	4.213	0.000	0.085	Supported
H3	GM -> SESR	0.232	0.060	3.900	0.000	0.075	Supported
H4	SEI -> SEC	0.614	0.044	14.065	0.000	0.694	Supported
H5	SEI -> SESR	0.158	0.078	2.020	0.044	0.022	Supported
H6	SEC -> SESR	0.371	0.085	4.359	0.000	0.113	Supported
H7	SESR -> MC	0.592	0.046	12.980	0.000	0.540	Supported

Note: $p < 0.05$ indicates that the hypothesis is supported

DISCUSSION

The present study conducted an exploratory analysis of the interrelationships amongst academic writing growth mindsets, self-efficacy, and metacognition. This study proved that the seven hypotheses previously formulated were accepted. In so doing, positive and significant relationships were encountered between academic writing growth mindsets and self-efficacy for academic writing ideation, between academic writing growth mindsets and self-efficacy for academic writing convention, between academic writing growth mindsets and self-efficacy for academic writing self-regulation, between self-efficacy for academic writing ideation and self-efficacy for academic writing convention, between self-efficacy for academic writing ideation and self-efficacy for academic writing self-regulation, between self-efficacy for academic writing convention and self-efficacy for academic writing self-regulation, and between self-efficacy for academic writing self-regulation and academic writing metacognition.

The first, second, and third results of this study demonstrated that positive and significant relationships were proven between academic writing growth mindsets and self-efficacy for academic writing ideation ($\beta = 0.20$; $p < 0.05$; $t = 3.449$), between academic writing growth mindsets and self-efficacy for academic writing convention ($\beta = 0.21$; $p < 0.05$; $t = 4.213$), and between academic writing growth mindsets and self-efficacy for academic writing self-regulation ($\beta = 0.23$; $p < 0.05$; $t = 3.900$). As the foregoing, it could be interpreted that the students' beliefs in the enhancement of their knowledge or intelligence related to academic writing skills by virtue of making more efforts to learn and practice (Bai & Guo, 2018) would drive them to be confident in their abilities, techniques, and insights for generating ideas while writing, be confident in working with all writing-related tools, and be confident in managing their strategies during writing (Bruning, Dempsey, Kauffman, McKim, et al., 2013; Crossley et al., 2016; Mitchell, Harrigan, & McMillan, 2017). Brought to a more extensive view, the relationship between the variable of growth mindsets and that of self-efficacy has been examined across fields other than academic writing. For example, Zander et al. (2018) indicated that, in general, people with growth mindsets are more likely to have a high degree of self-efficacy. Derr and Morrow's (2020) study in developmental psychology showcased that an intervention for growth mindsets of personalities affects a high degree

of bullying defenders' self-efficacy. Burnette et al. (2020) in the field of entrepreneurship education demonstrated that an intervention of growth mindsets increases students' self-efficacy in entrepreneurship. Buenconsejo and Datu's (2020) research in the field of youth psychology revealed that growth mindsets influence self-efficacy in career development. Studies on the interrelationships between growth mindsets and self-efficacy can also be traced in the realms of computer programming (Pembridge & Rodgers, 2019), aesthetics psychology (Hass et al., 2016), math (Huang et al., 2019; Samuel & Warner, 2021), and university education learning (Zander et al., 2018). The three sets of the current study's data above helped to confirm the previous studies' data on the interrelatedness of growth mindsets and self-efficacy especially in the field of academic writing (undergraduate thesis writing), in which self-efficacy *per se*, grounded in Bruning et al. (2013), fell into three dimensions extending to writing ideation, writing convention, and writing self-regulation.

The fourth, fifth, and sixth results of this study indicated that academic writing self-efficacy for ideation positively and significantly correlated with academic writing self-efficacy for convention ($\beta = 0.21$; $p < 0.05$; $t = 4.213$); self-efficacy for academic writing ideation correlated with self-efficacy for academic writing self-regulation ($\beta = 0.15$; $p < 0.05$; $t = 2.020$); and self-efficacy for academic writing convention had a relationship with self-efficacy for academic writing self-regulation ($\beta = 0.37$; $p < 0.05$; $t = 4.359$). It could be understood that students' confidence in their abilities, techniques, and insights for generating and developing ideas while writing influenced their confidence in working with all academic writing tools (e.g. Vocabularies, grammar, mechanics, language features, sematic knowledge, morphological awareness, and genres) and also affected their confidence in the abilities to control and monitor the applications of their strategic knowledge and practical strategies of academic writing. Subsequently, the student writers' confidence in their abilities to use academic writing tools (e.g. Vocabularies, grammar, mechanics, language features, sematic knowledge, morphological awareness, and genres) supported their confidence in the abilities to control and monitor the applications of their strategic knowledge and practical strategies of academic writing. The aforementioned components of self-efficacy for idea generation, convention, and self-regulation are correlated in nature, and their detailed relationships can be viewed from Bruning's et al. (2013) study that tested the interrelatedness of the three components of self-efficacy in the context of writing. Aside from the essence of self-efficacy, the elements of writing ideation and convention are, by nature, related to each other. As such, Crossley et al. (2016) proved that idea generations are significantly related to the uses of language features in writing, such as varied and difficult words, varied units of words, non-repetitive words, and semantic knowledge. As depicted in their studies, students with good capabilities of generating ideas during writing were competent at applying language features that Bruning et al. (2013) called writing convention. Subsequently, according to Huerta et al. (2016), increasing student writers' beliefs about their abilities to apply multiple skills, strategies, and knowledge in a specific context during writing can be a great way to help students improve their writing performance. Writing self-efficacy itself is not something static. It is something fluid which can be enhanced as well (Mitchell et al., 2017). The nature of

self-efficacy *per se* has been explained by some scholars (Bandura, 2012; Grenner et al., 2021; M. Lee & Evans, 2019; Schunk & Usher, 2012), and they have reached an agreement on the conception that self-efficacy can be developed resting upon some conditions commonly known as active experiences, vicarious experiences, social persuasion, and people's emotional and physiological states. Active experiences portray the previously successful performances in a similar field. Vicarious experiences are affiliated with observing other people who perform similar tasks. Social persuasion occurs when other people express confidence in a person's abilities, or when they provide adequate feedback on that person's performance. In turn, emotional and physiological states in this case represent a person's emotional response to a task he is working on. Therefore, if student writers meet these conditions, their writing self-efficacy can be enhanced all together including all writing self-efficacy elements ranging from ideation, convention, to self-regulation.

The seventh result of this study uncovered that self-efficacy for academic writing regulation correlated with academic writing metacognition ($\beta = 0.59$; $p < 0.05$; $t = 12.980$). It could interpreted that the student writers' confidence in generating and developing ideas, using writing-related tools, and applying their writing strategic knowledge and practical strategies (Bruning et al., 2013; Mitchell, Harrigan, & McMillan, 2017) triggered their abilities to plan, monitor, and evaluate their written works (Sultan & Moqbali, 2020). Metacognition is used as a problem-solving technique in writing to deal with the complexities of writing (Briesmaster, 2017). Thus, in the current study, the student writers with high self-efficacy in thesis writing would be able to use their own controlled strategies to deal with various challenges in all thesis components during writing. In a similar vein, Akamatsu et al. (2019) discovered that self-efficacy mediates the relationship between learning behaviour and metacognition, lending credence to the preceding correlation.

An interesting point which could be learned from our study was that self-efficacy for academic writing regulation mediated the relationship between academic writing growth mindsets and academic writing metacognition. More extensively, the academic writing for self-regulation itself was influenced by other writing self-efficacy constituents, namely self-efficacy for ideation and self-efficacy for convention. Grounded in the aforementioned relationships, a practical implication can be drawn. It has been agreed that students with high writing metacognition will likely have good writing performance and skills (F. Teng, 2016). Metacognition has a significant impact on writing results as a higher-order cognitive function because it teaches students how to develop specific methods for dealing with each component of writing (Luo, 2017; Sultan & Moqbali, 2020). Learners with strong metacognition can construct successful interactions, critical arguments, and written argument rationales. The aforementioned abilities are required for writing (M. F. Teng, 2019), and the preceding clearly shows that writing metacognition has a theoretical relationship with writing performance and skills. Thus, in a practical way, it is suggested that in order to help students improve their academic writing performance and skills, metacognitive interventions are required. Within the metacognitive interventions, the input related to academic writing growth mindset and self-efficacy empowerments is critical and needs to be incorporated since academic

writing growth mindsets and the mediating role of academic writing self-efficacy will concomitantly support the development of academic writing metacognition.

It is important to be elucidated that our study is not without limitations. In terms of our professional affiliations as lecturers from Central Java and Papua, we were only able to reach undergraduate students from the same provinces as ours during the course of this study. Thus, involving more undergraduate students from other provinces with different demographic information may reveal different exploratory interrelationships among the variables of writing growth mindsets, writing self-efficacy, and writing metacognition. Despite this limitation, we had made concerted efforts to engage as many undergraduate students as possible from the two provinces (464 respondents) in order to generate strong and representative data. As a result, we were able to conduct an exploratory analysis of the seven hypotheses focusing on the interactions amongst academic writing growth mindsets, academic writing self-efficacy, and academic writing metacognition. Our study is unique due to the incorporation of the three variables as aforementioned into a single study. Nonetheless, if viewed according to each hypothesis we worked on but not pursuant to the whole incorporation of the three variables in a single study, each hypothesis formulated in this study has been confirmed and verified by a number of previous studies both in the same field and across different fields other than academic writing.

CONCLUSION

The exploratory analysis using PLS-SEM successfully highlights the interplay among academic writing growth mindsets, self-efficacy, and metacognition. In detail, positive and significant relationships are encountered between academic writing growth mindsets and self-efficacy for academic writing ideation, between academic writing growth mindsets and self-efficacy for academic writing convention, between academic writing growth mindsets and self-efficacy for academic writing self-regulation, between self-efficacy for academic writing ideation and self-efficacy for academic writing convention, between self-efficacy for academic writing ideation and self-efficacy for academic writing self-regulation, between self-efficacy for academic writing convention and self-efficacy for academic writing self-regulation, and between self-efficacy for academic writing self-regulation and academic writing metacognition. Also, it can be drawn that academic writing self-efficacy for self-regulation mediates the correlation between academic writing growth mindsets and academic writing metacognition. Together with growth mindsets, other constituents of academic writing self-efficacy, namely ideation and convention, concomitantly help affect academic writing metacognition. In practice, it is suggested that metacognitive interventions be required to assist students in improving their academic writing performance and skills. The input related to academic writing growth mindset and self-efficacy empowerments is critical and must be incorporated within the metacognitive interventions because academic writing growth mindsets and the mediating role of academic writing self-efficacy will both support the development of academic writing metacognition.

It is suggested that future's research be carried out to develop a structural model of academic writing factors by incorporating other variables which are influential, such as

critical thinking skills, or those that may potentially contribute to the various depictions of academic writing skills and the related internal constituents of academic writing skills. The more predicting variables the future's research can involve in, the more verified and scientific information such research can provide in efforts to help academic writing academicians and educators enhance their students' academic writing skills and performances.

REFERENCES

Adamson, J. L., Coulson, D., & Fujimoto-Adamson, N. (2019). Supervisory practices in English-medium undergraduate and postgraduate applied linguistics thesis writing: Insights from Japan-based tutors. *The Asian Journal of Applied Linguistics*, *6*(1), 14–27.

Akamatsu, D., Nakaya, M., & Koizumi, R. (2019). *behavioral sciences E ff ects of Metacognitive Strategies on the Self-Regulated Learning Process : The Mediating E ff ects of Self-E ffi cacy*.

Alberth. (2019). Use of Facebook, students' intrinsic motivation to study writing, writing self-efficacy and writing performance. *Technology, Pedagogy and Education*, *28*(1), 21–36. https://doi.org/10.1080/1475939X.2018.1552892

Alhassan, L., & Wood, D. (2015). The effectiveness of focused instruction of formulaic sequences in augmenting L2 learners' academic writing skills: A quantitative research study. *Journal of English for Academic Purposes*, *17*, 51–62. https://doi.org/10.1016/j.jeap.2015.02.001

Aliyu, M. M., Fung, Y. M., Abdullah, M. H., & Hoon, T. B. (2016). Developing undergraduates' awareness of metacognitive knowledge in writing through problem-based learning. *International Journal of Applied Linguistics and English Literature*, *5*(7), 233–240. https://doi.org/10.7575/aiac.ijalel.v.5n.7p.233

Altınmakas, D., & Bayyurt, Y. (2019). An exploratory study on factors influencing undergraduate students' academic writing practices in Turkey. *Journal of English for Academic Purposes*, *37*, 88–103. https://doi.org/10.1016/j.jeap.2018.11.006

Ansarifar, A., Shahriari, H., & Pishghadam, R. (2018). Phrasal complexity in academic writing: A comparison of abstracts written by graduate students and expert writers in applied linguistics. *Journal of English for Academic Purposes*, *31*, 58–71. https://doi.org/10.1016/j.jeap.2017.12.008

Bai, B., & Guo, W. (2018). Influences of self-regulated learning strategy use on self-efficacy in primary school students' English writing in Hong Kong. *Reading and Writing Quarterly*, *34*(6), 523–536. https://doi.org/10.1080/10573569.2018.1499058

Bai, B., & Wang, J. (2020). The role of growth mindset, self-efficacy and intrinsic value in self-regulated learning and English language learning achievements. *Language Teaching Research*, 1–22. https://doi.org/10.1177/1362168820933190

Bai, B., Wang, J., & Nie, Y. (2020). Self-efficacy, task values and growth mindset: what has the most predictive power for primary school students' self-regulated learning in

English writing and writing competence in an Asian Confucian cultural context? *Cambridge Journal of Education*, 1–20. https://doi.org/10.1080/0305764X.2020.1778639

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, *38*, 9–44.

Bassett, M. H. (2016). Teaching critical thinking without (much) writing: Multiple-choice and metacognition. *Teaching Theology and Religion*, *19*(1), 20–40. https://doi.org/10.1111/teth.12318

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, *78*(1), 246–263.

Briesmaster, M. (2017). Coherence and cohesion in EFL students' writing production : The impact of a metacognition-based intervention. *Ikala*, *22*(1), 183–202. https://doi.org/10.17533/udea.ikala.v22n02a02

Bruning, R., Dempsey, M., Kauffman, D. F., Mckim, C., & Zumbrunn, S. (2013). Examining dimensions of self-efficacy for writing. *Journal of Educational Psychology*, *106*(1), 25–38. https://doi.org/10.1037/a0029692

Bruning, R., Dempsey, M., Kauffman, D. F., McKim, C., & Zumbrunn, S. (2013). Examining dimensions of self-efficacy for writing. *Journal of Educational Psychology*, *105*(1), 25–38. https://doi.org/10.1037/a0029692

Buenconsejo, J. U., & Alfonso D. Datu, J. (2020). Growth and fixed mindsets about talent matter for career development self-efficacy in selected Filipino adolescents. *Children and Youth Services Review*, *118*, 1–6. https://doi.org/10.1016/j.childyouth.2020.105470

Burnette, J. L., Pollack, J. M., Forsyth, R. B., Hoyt, C. L., Babij, A. D., Thomas, F. N., & Coy, A. E. (2020). A growth mindset Intervention: Enhancing students' entrepreneurial self-efficacy and career development. *Entrepreneurship: Theory and Practice*, *44*(5), 878–908. https://doi.org/10.1177/1042258719864293

Callinan, C. J., van der Zee, E., & Wilson, G. (2018). Developing essay writing skills: an evaluation of the modelling behaviour method and the influence of student self-efficacy. *Journal of Further and Higher Education*, *42*(5), 608–622. https://doi.org/10.1080/0309877X.2017.1302564

Çandarl, D., Bayyurt, Y., & Mart, L. (2015). Authorial presence in l1 and l2 novice academic writing: Cross-linguistic and cross-cultural perspectives. *Journal of English for Academic Purposes*, *20*, 192–202. https://doi.org/10.1016/j.jeap.2015.10.001

Cer, E. (2019). The Instruction of Writing Strategies: The Effect of the Metacognitive Strategy on the Writing Skills of Pupils in Secondary Education. *SAGE Open*, *9*(2).

https://doi.org/10.1177/2158244019842681

Chakma, U., Li, B., & Kabuhung, G. (2021). Creating online metacognitive spaces: Graduate research writing during the covid-19 pandemic. *Issues in Educational Research*, *31*(1), 37–55.

Chen, J., & Zhang, L. J. (2019). Assessing student-writers' self-efficacy beliefs about text revision in EFL writing. *Assessing Writing*, *40*, 27–41. https://doi.org/10.1016/j.asw.2019.03.002

Chen, W., & Hapgood, S. (2021). Understanding knowledge, participation and learning in L2 collaborative writing: A metacognitive theory perspective. *Language Teaching Research*, *25*(2), 256–281. https://doi.org/10.1177/1362168819837560

Colognesi, S., Piret, C., & Demorsy, S. (2020). Teaching writing—with or without metacognition?: An exploratory study of 11-to 12-year-old students writing a book review. *International Electronic Journal of Elementary Education*, *12*(5), 459–470. https://doi.org/10.26822/iejee.2020562136

Cooper, J. B., Lee, S., Jeter, E., & Bradley, C. L. (2020). Psychometric validation of a growth Mindset and Team Communication Tool to measure self-views of growth mindset and team communication skills. *Journal of the American Pharmacists Association*, *60*(6), 818–826.

Crossley, S. A., Muldner, K., & Mcnamara, D. S. (2016). Idea generation in student writing: Computational assessments and links to successful writing. *Written Communication*, 1–27. https://doi.org/10.1177/0741088316650178

Csizér, K., & Tankó, G. (2017). English majors' self-regulatory control strategy use in academic writing and its relation to L2 motivation. *Applied Linguistics*, *38*(3), 386–404. https://doi.org/10.1093/applin/amv033

Cumming, A., Lai, C., & Cho, H. (2016). Students' writing from sources for academic purposes: A synthesis of recent research. *Journal of English for Academic Purposes*, *23*, 47–58. https://doi.org/10.1016/j.jeap.2016.06.002

Derr, S., & Morrow, M. T. (2020). Effects of a growth mindset of p0ersonality on emerging adults' defender self-efficacy, moral disengagement, and perceived peer defending. *Journal of Interpersonal Violence*, *35*(3–4), 542–570. https://doi.org/10.1177/0886260517713716

Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random House. http://www.peterhoney.com

Ebadi, S., & Rahimi, M. (2018). An exploration into the impact of WebQuest-based classroom on EFL learners' critical thinking and academic writing skills: a mixed-methods study. *Computer Assisted Language Learning*, *31*(5–6), 617–651. https://doi.org/10.1080/09588221.2018.1449757

Escorcia, D., & Ros, C. (2019). What variables interact with metacognitive processes

related to writing in university students: The role of demographic and education factors. *Electronic Journal of Research in Educational Psychology*, *17*(49), 639–664. https://doi.org/10.25115/ejrep.v17i49.2486

Farahian, M., & Avarzamani, F. (2018). Corrigendum to: The impact of portfolio on EFL learners' metacognition and writing performance. *Cogent Education*, *11*(1). https://doi.org/10.1080/2331186X.2018.1450918

Flavell, J. H. (1979). Metacognition and Cognitive Monitoring: A New Era of Cognitive Developmental Inquiry. *American Psychologist*, *34*, : 906–911.

Grenner, E., Johansson, V., van de Weijer, J., & Sahlén, B. (2021). Effects of intervention on self-efficacy and text quality in elementary school students' narrative writing. *Logopedics Phoniatrics Vocology*, *46*(1), 1–10. https://doi.org/10.1080/14015439.2019.1709539

Guraya, S. Y., & Guraya, S. S. (2017). The confounding factors leading to plagiarism in academic writing and some suggested remedies: A systematic review. *Journal of the Pakistan Medical Association*, *67*(5), 767–772.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*.

Han, J., & Hiver, P. (2018). Genre-based L2 writing instruction and writing-specific psychological factors: The dynamics of change. *Journal of Second Language Writing*, *40*, 44–59. https://doi.org/10.1016/j.jslw.2018.03.001

Hass, R. W., Katz-Buonincontro, J., & Reiter-Palmon, R. (2016). Disentangling creative mindsets from creative self-efficacy and creative identity: Do people hold fixed and growth theories of creativity. *Psychology of Aesthetics, Creativity, and the Arts*, *10*(4), 436–446. https://doi.org/10.1037/aca0000081

Hayat, A. A., Shateri, K., Amini, M., & Shokrpour, N. (2020). *Relationships between academic self- efficacy , learning-related emotions , and metacognitive learning strategies with academic performance in medical students : a structural equation model*. 1–11.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135.

Howe, L., & Wig, A. Van. (2017). Metacognition via creative writing: dynamic theories of learning support habits of the mind in 21st century classrooms. *Journal of Poetry Therapy*, *30*(3), 139–152. https://doi.org/10.1080/08893675.2017.1328830

Huang, X., Zhang, J., & Hudson, L. (2019). Impact of math self-efficacy, math anxiety,

and growth mindset on math and science career interest for middle school students: the gender moderating effect. *European Journal of Psychology of Education*, *34*(3), 621–640. https://doi.org/10.1007/s10212-018-0403-z

Huerta, M., Goodson, P., Beigi, M., Chlup, D., Huerta, M., Goodson, P., & Beigi, M. (2016). Graduate students as academic writers : writing anxiety , self-efficacy and emotional intelligence. *Higher Education Research & Development*, 1–14. https://doi.org/10.1080/07294360.2016.1238881

Jafarigohar, M., & Mortazavi, M. (2016). The impact of scaffolding mechanisms on efl learners' individual and socially shared metacognition in writing. *Reading and Writing Quarterly*, *33*(3), 211–225. https://doi.org/10.1080/10573569.2016.1154488

Karlen, Y. (2017). The development of a new instrument to assess metacognitive strategy knowledge about academic writing and its relation to self-regulated writing and writing performance. *Journal of Writing Research*, *9*(1), 61–86. https://doi.org/10.17239/jowr-2017.09.01.03

Karlen, Y., & Compagnoni, M. (2017). Implicit theory of writing ability: Relationship to metacognitive strategy knowledge and strategy use in academic writing. *Psychology Learning and Teaching*, *16*(1), 47–63. https://doi.org/10.1177/1475725716682887

Kiriakos, C. M., & Tienari, J. (2018). Academic writing as love. *Management Learning*, *49*(3), 263–277. https://doi.org/10.1177/1350507617753560

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.

Kock, N. (2016). Advantages of nonlinear over segmentation analyses in path models. *International Journal of E-Collaboration (Ijec)*, *12*(4), 1–6.

Kuiken, F., & Vedder, I. (2020). The interplay between academic writing abilities of Dutch undergraduate students, a remedial writing programme, and academic achievement. *International Journal of Bilingual Education and Bilingualism*, 1–12. https://doi.org/10.1080/13670050.2020.1726280

Lee, I., & Mak, P. (2018). Metacognition and metacognitive instruction in second language writing classrooms. *TESOL Quarterly*, *52*(4), 1–13. https://doi.org/10.1002/tesq.436

Lee, M., & Evans, M. (2019). Investigating the operating mechanisms of the sources of l2 writing self-efficacy at the stages of giving and receiving peer feedback. *Modern Language Journal*, *103*(4), 831–847. https://doi.org/10.1111/modl.12598

Limpo, T., & Alves, R. A. (2017). Relating beliefs in writing skill malleability to writing performance: The mediating role of achievement goals and self-efficacy. *Journal of Writing Research*, *9*(2), 97–124. https://doi.org/10.17239/jowr-2017.09.02.01

Loughlin, V. D. O., & Griffith, L. M. (2020). Developing student metacognition through reflective writing in an upper level undergraduate anatomy course. *Anatomical Sciences*

Education, *13*(6), 680–693. https://doi.org/10.1002/ase.1945

Luo, Y. (2017). Engineering majors' metacognitive strategy use in EFL writing: A case study within the Web-based environments. *World Transactions on Engineering and Technology Education*, *15*(4), 323–330.

Miller, R. T., & Pessoa, S. (2016). Where's your thesis statement and what happened to your topic sentences? identifying organizational challenges in undergraduate student argumentative writing. *TESOL Journal*, *7*(4), 847–873. https://doi.org/10.1002/tesj.248

Mitchell, K. M., Harrigan, T., & McMillan, D. E. (2017). Writing self-efficacy in nursing students: The influence of a discipline-specific writing environment. *Nursing Open*, *4*, 240–250. https://doi.org/10.1002/nop2.90

Mitchell, K. M., Harrigan, T., Stefansson, T., & Setlack, H. (2017). Exploring self-effifficacy and anxiety in first-year nursing students enrolled in a discipline-specifific scholarly writing course. *Quality Advancement in Nursing Education*, *3*(1), 1–23. https://doi.org/10.17483/2368-6669.1084

Mitchell, K. M., Mcmillan, D. E., Lobchuk, M. M., Nickel, N. C., Rabbani, R., & Li, J. (2021). Development and validation of the situated academic writing self-efficacy scale (SAWSES). *Assessing Writing*, *48*, 1–20. https://doi.org/10.1016/j.asw.2021.100524

Murtadho, F. (2021). Metacognitive and critical thinking practices in developing EFL students' argumentative writing skills. *Indonesian Journal of Applied Linguistics*, *10*(3), 656–666. https://doi.org/10.17509/ijal.v10i3.31752

Negretti, R., & McGrath, L. (2018). Scaffolding genre knowledge and metacognition: Insights from an L2 doctoral research writing course. *Journal of Second Language Writing*, *40*, 12–31. https://doi.org/10.1016/j.jslw.2017.12.002

Oyelekan, O. S., Jolayemi, S. S., Upahi, J. E., Education, T., & Africa, S. (2019). *Cypriot Journal of Educational*. *14*(2), 208–221.

Pembridge, J. J., & Rodgers, K. J. (2019). Examining self-efficacy and growth mindset in an introductory computing course. *Proceedings - Frontiers in Education Conference, FIE*, 1–5. https://doi.org/10.1109/FIE.2018.8658728

Pitenoee, M. R., & Modaberi, A. (2017). The effect of cognitive and metacognitive writing strategies on content of the iranian intermediate efl learners' writing. *Journal of Language Teaching and Research*, *8*(3), 594–600. https://doi.org/10.17507/jltr.0803.19

Puryantoa, E., Rasyidb, Y., & Murtadhoc, F. (2021). Prior knowledge-based metacognition strategies in developing students' writing skills assessment tools: Preparing the student teachers. *Asian EFL Journal*, *28*(1), 85–108.

Ramadhanti, D., Ghazali, A. S., Hasanah, M., Harsiati, T., & Yanda, D. P. (2020). The use of reflective journal as a tool for monitoring of metacognition growth in writing. *International Journal of Emerging Technologies in Learning*, *12*(11), 162–187. https://doi.org/10.3991/IJET.V15I11.11939

Reig, A. (2020). Metacognitive regulation and metalinguistic activity during a collaborative writing composition process based on reading from sources. *Bellaterra Journal of Teaching & Learning Language & Literature*, *13*(3), 1–21. https://doi.org/10.5565/rev/jtl3.857

Rhew, E., Piro, J. S., Goolkasian, P., & Cosentino, P. (2018). The effects of a growth mindset on self-efficacy and motivation. *Cogent Education*, *5*(1), 1–16. https://doi.org/10.1080/2331186X.2018.1492337

Sabti, A. A., Md Rashid, S., Nimehchisalem, V., & Darmi, R. (2019). The impact of writing anxiety, writing achievement motivation, and writing self-efficacy on writing performance: A correlational study of Iraqi tertiary EFL learners. *SAGE Open*, *9*(4), 1–13. https://doi.org/10.1177/2158244019894289

Samuel, T. S., & Warner, J. (2021). "I can Math!": Reducing Math anxiety and increasing Math self-efficacy using a mindfulness and growth mindset-based intervention in first-year students. *Community College Journal of Research and Practice*, *45*(3), 205–222. https://doi.org/10.1080/10668926.2019.1666063

Sanchez, N., Norka, A., Corbin, M., & Peters, C. (2019). Use of experiential learning, reflective writing, and metacognition to develop cultural humility among undergraduate students. *Journal of Social Work Education*, *55*(1), 75–88. https://doi.org/10.1080/10437797.2018.1498418

Schunk, D. H., & Usher, E. L. (2012). Social cognitive theory and motivation. In *The Oxford handbook of human motivation* (pp. 13–27). Oxford University Press.

Sudirman, S. A., Nurmandi, A., & Bashori, K. (2020). English writing skills through perception of siri' cultural values: Optimism, social support, and academic self-efficacy. *Cakrawala Pendidikan*, *39*(2), 242–256. https://doi.org/10.21831/cp.v39i2.26118

Suen, R. (2021). EFL students' perceptions of transferable writing skills and knowledge for undergraduate thesis writing from an EAP research writing course. *Asian EFL Journal*, *28*(1), 286–314.

Sultan, I., & Moqbali, A. (2020). Metacognitive writing strategies used by Omani grade twelve students. *International Journal of Learning, Teaching and Educational Research*, *19*(8), 214–232. https://doi.org/10.26803/ijlter.19.8.12

Teng, F. (2016). Immediate and delayed effects of embedded metacognitive instruction on Chinese EFL students' English writing and regulation of cognition. *Thinking Skills and Creativity*, *22*, 289–302. https://doi.org/10.1016/j.tsc.2016.06.005

Teng, M. F. (2019). The role of metacognitive knowledge and regulation in mediating university EFL learners ' writing performance. *Innovation in Language Learning and Teaching*, 1–15. https://doi.org/10.1080/17501229.2019.1615493

Truax, M. L. (2018). The Impact of Teacher Language and Growth Mindset Feedback on Writing Motivation. *Literacy Research and Instruction*, *57*(2), 135–157. https://doi.org/10.1080/19388071.2017.1340529

Vincent, C., Tremblay-Wragg, É., Déri, C., Plante, I., & Mathieu Chartier, S. (2021). How writing retreats represent an ideal opportunity to enhance PhD candidates' writing self-efficacy and self-regulation. *Teaching in Higher Education*, 1–20. https://doi.org/10.1080/13562517.2021.1918661

Weaver, K. F., Morales, V., Nelson, M., Weaver, P. F., Toledo, A., & Godde, K. (2016). The benefits of peer review and a multisemester capstone writing series on inquiry and analysis skills in an undergraduate thesis. *CBE Life Sciences Education*, *15*(4), ar51.1-ar51.9. https://doi.org/10.1187/cbe.16-01-0072

Wong, K. K.-K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, *24*(1), 1–32.

Wu, D., Dang, W., He, D., & Bi, R. (2017). Undergraduate information behaviors in thesis writing: A study using the Information Search Process model. *Journal of Librarianship and Information Science*, *49*(3), 256–268. https://doi.org/10.1177/0961000616654960

Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: when students believe that personal characteristics can be developed. *Educational Psychologist*, *47*(4), 302–314. https://doi.org/10.1080/00461520.2012.722805

Zaki, A. A., & Md Yunus, M. (2015). Potential of mobile learning in teaching of ESL academic writing. *English Language Teaching*, *8*(6), 11–19. https://doi.org/10.5539/elt.v8n6p11

Zander, L., Brouwer, J., Jansen, E., Crayen, C., & Hannover, B. (2018). Academic self-efficacy, growth mindsets, and university students' integration in academic and social support networks. *Learning and Individual Differences*, *62*, 98–107. https://doi.org/10.1016/j.lindif.2018.01.012

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Students' Profiles of Academic Writing: The Interplay among Academic Writing Growth Mindsets, Self-Efficacy, and Metacognition

It has been a consensus that growth mindsets, self-efficacy, and metacognition have played their respective roles in academic writing. However, very few previous studies have investigated the contributions of those variables all together in single studies. Thus, the present study sought to examine the interplay among academic writing growth mindsets, self-efficacy, and metacognition concomitantly as a single study by formulating seven hypotheses. Using PLS-SEM, this quantitative study conveniently involved 464 undergraduate students from several majors, working with undergraduate theses. A valid and reliable questionnaire negotiating academic writing growth mindsets, self-efficacy, and metacognition was copied into the Google form, and the links were distributed to the respondents. Results demonstrated that, in the academic writing context, positive and significant relationships were encountered between growth mindsets and ideation self-efficacy, growth mindsets and convention self-efficacy, growth mindsets and self-regulation self-efficacy, ideation self-efficacy and convention self-efficacy, ideation self-efficacy and self-regulation self-efficacy, convention self-efficacy and self-regulation self-efficacy, and self-regulation self-efficacy and metacognition. Self-regulation self-efficacy mediated the correlation between growth mindsets and metacognition. Future's studies are expected to develop a structural model of academic writing factors by incorporating the other influential variable, e.g. critical thinking skills, because it might contribute to differences in academic writing skills.

Keywords: undergraduate thesis, academic writing, growth mindsets, self-efficacy, metacognition

INTRODUCTION

In general, academic writing conceptually depicts a form of interactive communication between a writer and readers, in which the writer addresses an issue in detail and in a scientific way with the aim of providing the readers with credible information (Çandarl et al., 2015). On the writer's side, academic writing encompasses rational and intellectual activities in terms of processing and transferring knowledge. Those processes are complex in nature due to the consecutive works on idea brainstorming, planning, drawing the conceptual framework of what to write out, writing a draft, proofreading, and making revisions (Csizér & Tankó, 2017; Kiriakos & Tienari, 2018). Practically, not only does an academic writer have to be accurate and fluent in the uses of academic words, collocations, phrases, and grammatical complexities (Alhassan & Wood, 2015; Ansarifar et al., 2018), he/she is also demanded to be skilled at mapping references related to the addressed discourse (Cumming et al., 2016), making arguments with good and comprehensible idea organizations pertinent to the on-going discourse, and showcasing his/her critical reasoning (Ebadi & Rahimi, 2018).

At the tertiary level, among undergraduate students, academic writing is generally affiliated with research-based writing or the so-called thesis writing, which is the last phase they have to pass to receive their bachelor's degrees (Weaver et al., 2016). Wu et

al. (2017) delineated that there are six major steps the undergraduate students take in writing theses. The first is to select the orientation of the research area by engaging supervisors in discussions to decide on the fixed area of research. The second is to determine the research's topic. The third is to review relevant literature and conduct the research project. The fourth is to write out the initial drafts of theses. The fifth is to make revisions and finalize the works. The sixth is to take thesis exams. Each stage of research-based academic writing has its own complexities (Huerta et al., 2016). Oftentimes, students face difficulties due to insufficient knowledge about the styles of academic writing and because of ineffective compositions in the domains of both idea organizations and language structures (Zaki & Yunus, 2015). Also, the processes of data presentation and discussions very often trap students in rumination. Hence, the persistence of students' prolonged and active engagement in dealing with all stages of academic writing alongside their detailed contents is of importance (Altınmakas & Bayyurt, 2019). Guraya and Guraya (2017) added that the levels of students' academic writing skills and their understanding of research ethics also determine their qualities and success in academic writing.

Learning from prior studies, there could be identified some external factors in the form of tutors' or supervisors' interventions which contribute to the enhancement of students' academic writing skills. A study executed by Adamson et al. (2019) demonstrated the importance of supervisors' roles in helping students write out academic works (in this case, undergraduate, graduate, and postgraduate theses). Their study informed that the supervisors' roles such as scaffolding students, holding continuous discussions with students to help them deal with English and non-English resources, providing corrective and metalinguistic feedback in a direct way, and assisting students in mapping their concepts become critical factors that support students' success in academic writing. The study undertaken by Kuiken and Vedder (2020) echoed that the provision of a remedial program to intensively train students whose academic writing proficiency has not reached the expected standards is contributive towards the advancement of their academic writing skills. In respect of helping students organize their ideas for writing, Miller and Pessoa (2016) recommended that students be taught explicitly. Subsequently, the study conducted by Suen (2021) portrayed that a research-based academic writing workshop is contributive to the increase in students' academic writing skills, wherein their participants could perceive the extent to which academic writing knowledge and skills are transferrable.

Besides external factors, the complex nature of academic writing which entails logical and critical processes of ideational and language use-related organizations also calls for students' strong internal factors such as growth mindsets, self-efficacy, and metacognition (Bai et al., 2020; Negretti & McGrath, 2018; Vincent et al., 2021). First, a growth mindset refers to the belief that intelligence can be forged and improved through efforts (Blackwell et al., 2007). A study conducted by Truax (2018) indicated that the inclusion of a growth mindset in teacher's feedback alongside the provision of truth-based compliments contributes to an increase in students' writing motivation. Second, self-efficacy is part of a person's motivational dimension, and it represents a person's belief in his own ability to produce or achieve the desired results from the hard

work he invests (Bandura, 1997; Mitchell et al., 2021). Studies conducted by Huerta et al. (2016) and Vincent et al. (2021) portrayed that increasing confidence in ones' abilities or self-efficacy to write in certain situations is thus regarded as an important effort to improve their writing performance. Third, metacognition is defined as students' awareness of their own thinking processes, in which they are able to reflect on their knowledge and the processes of controlling their own cognitive or thinking activities effectively to achieve the expected learning goals (Chen & Hapgood, 2021; Flavell, 1979; Karlen & Compagnoni, 2017; Teng, 2019). Metacognition, as a higher-order cognitive process, is an important factor that influences writing outcomes because it trains students to develop specific strategies required to deal with each component of writing (Luo, 2017; Pitenoee & Modaberi, 2017; Sultan & Moqbali, 2020).

Since the last five years, prior studies on writing, which worked on the variables of growth mindsets, self-efficacy, and metacognition, have been conducted, and such studies have been very contributive to us and provided us with adequate knowledge and data about the aforementioned three variables' roles in writing. Nonetheless, those studies seem to have addressed the three variables as single variables in respective studies (e.g. Chen & Zhang, 2019; Grenner et al., 2021; Howe & Wig, 2017; Jafarigohar & Mortazavi, 2016; Lee & Mak, 2018; Lee & Evans, 2019; Murtadho, 2021; Ramadhanti et al., 2020; Sultan & Moqbali, 2020; Truax, 2018); they have examined the interrelationships of mere two out of the three variables (e.g. Bai & Guo, 2018; Colognesi et al., 2020; Farahian & Avarzamani, 2018; Limpo & Alves, 2017; Pitenoee & Modaberi, 2017; Vincent et al., 2021); or they have scrutinized the interrelatedness of respective three variables with other variables (e.g. Alberth, 2019; Aliyu et al., 2016; Chakma et al., 2021; Escorcia & Ros, 2019; Loughlin & Griffith, 2020; Puryantoa et al., 2021; Reig, 2020; Sanchez et al., 2019; Sudirman et al., 2020). However, to the best of our knowledge, no prior studies have been oriented towards conducting an exploratory analysis of the interplay among academic writing growth mindsets, self-efficacy, and metacognition in the context of undergraduate thesis writing as a single study. Also, no previous studies with the foregoing aim could have been traced from the publications of Indonesian academicians thus far. Thus, the present study seeks to fulfil this literature's void by conducting an exploratory analysis of the interplay among academic writing growth mindsets, self-efficacy, and metacognition in the context of tertiary students from Indonesian population who are dealing with undergraduate thesis writing.

Growth Mindset

One of the factors impeding the development of students' writing skills is the so-called fixed mindset (Dweck, 2006). Such a mindset does not allow students to take account of their conceivable potential to boost their writing competencies to a higher level. Students should realize the nature of a mindset as something fluid in which it can be constructed and co-constructed to help motivate them to reach their ideal writing skills. Dweck (2006) asserted that a mindset is flexible in a way that it can change and be controlled as desirable, thus students can opt to have a growth mindset in a certain realm to reach their ideal mastery. To be defined, a growth mindset refers to the belief that intelligence can be forged and improved through efforts, and it is a significant predictor

of the use of general learning strategies (Blackwell et al., 2007). Students' growth mindsets can be a motivational factor for their learning development in light of that their growth mindsets will lead them to being more confident in learning after they review their latest learning outcomes. The essence of growth mindsets is critical to writing because the complexity of writing processes (e.g. planning, drafting, proofreading, and revising) will cause students to be vulnerable to give up if they find it difficult to work on those writing steps. With a growth mindset, students will see wisely the complex processes of writing as the stages of learning they have to take part in. Learning from a study conducted by Truax (2018), students' growth mindsets can be enhanced by teachers' motivational talk and written feedback. Furthermore, once students have growth mindsets, they can invest their self-regulated learning efforts to reach better writing skills (Bai et al., 2020).

Self-Efficacy

Self-efficacy is part of a person's motivational dimension, and it represents a person's belief in his own ability to produce or achieve the desired results from the hard work he invests (Bandura, 1997; Mitchell et al., 2021). A person with sufficient efficacy will be confident in his ability to plan goals, execute goal-based works, and produce a representative condition for achieving these goals (Bai & Guo, 2018). According to several experts who dedicate their works to the field of self-efficacy, self-efficacy is constructed by four indicators, namely active experiences, vicarious experiences, social persuasion, and people's emotional and physiological states. Active experiences portray previously successful performances in a similar field. Vicarious experiences are affiliated with observing other people who perform similar tasks. Social persuasion occurs when other people express confidence in a person's abilities, or when they provide adequate feedback on that person's performance. In turn, emotional and physiological states in this case represent a person's emotional response to a task he is working on (Bandura, 2012; Grenner et al., 2021; Lee & Evans, 2019; Schunk & Usher, 2012).

Self-efficacy is the primary motivating factor for students, and it is an indicator that supports students' involvement in learning. In terms of writing, different approaches to students' written works may be based on their diverse levels of self-efficacy or confidence in their abilities to work on the papers (Callinan et al., 2018). Writing self-efficacy is defined as anything inherent in writers' beliefs about their ability to write, such as abilities that require multiple skills, strategies, and knowledge in a specific context (Mitchell, Harrigan, Stefansson, et al., 2017). Increasing confidence in ones' abilities or self-efficacy to write in certain situations is thus regarded as an important effort to improve their writing performance (Huerta et al., 2016; Vincent et al., 2021). Bruning et al. (2013) posited three constructs of self-efficacy for writing which fall into ideation, convention, and self-regulation. The first depicts self-efficacy in terms of creating and shaping the concepts, principles, and reasoning that serve as the foundation for writing. The second demonstrates self-efficacy in terms of improving linguistic skills, such as when writers express their ideas using words, syntactic structures, and the organization of language discourse. The third represents the writer's self-efficacy in

terms of self-management and affective control, and this self-efficacy includes assessments of the cognitive and linguistic features of the writing produced. According to research, affective or motivational factors such as self-efficacy are strongly related to improving writing skills (Sabti et al., 2019). A study conducted by Han and Hiver (2018) also supports the same condition.

Metacognition

Metacognition is students' awareness of their own thinking processes, in which they are able to reflect on their knowledge, and the processes of controlling their own cognitive or thinking activities effectively to achieve the expected learning goals (Chen & Hapgood, 2021; Flavell, 1979; Karlen & Compagnoni, 2017; Teng, 2019). Metacognition, in some ways, also represents students' independent skills at planning, monitoring, controlling, evaluating, and reflecting on the results of learning evaluations (Bassett, 2016; Cer, 2019). Specifically, metacognition is the embodiment of two main indicators known as metacognitive knowledge and regulation. The former encompasses declarative knowledge such as the awareness of what is already known, procedural knowledge associated with the awareness of how to apply what is already known, and conditional knowledge pertinent to the awareness of when and why making use of what is already known (Chen & Hapgood, 2021). Furthermore, the latter is affiliated with three abilities extending to planning where learners are able to select appropriate strategies and collect learning resources, monitoring in the sense that learners apply certain strategies to observe the effectiveness of learning processes, and evaluating by which learners are capable of measuring learning outcomes to make decisions on the best way to conduct further learning (Teng, 2019).

Metacognition serves as a problem-solving strategy for students when writing (Briesmaster, 2017; Teng, 2016). From a cognitive standpoint, writing is viewed as a complex recursive process that includes interactive stages of planning, designing an outline, producing a written product, and revising a written product. All of these processes are related to students' conscious control over activities such as planning, monitoring, assessing, and self-regulating. Metacognition, as a higher-order cognitive process, is an important factor that influences writing outcomes because it trains students to develop specific strategies required to deal with each component of writing (Luo, 2017; Pitenoee & Modaberi, 2017; Sultan & Moqbali, 2020). Learners with good metacognition will be able to build effective interactions, critical arguments, and rationalize their arguments. The aforesaid competencies are important components in writing (Teng, 2019). Furthermore, metacognition assists students in planning, monitoring, and evaluating their written work independently (Teng, 2019). Escorcia and Ros (2019) explained that when students are good at applying metacognitive strategies, they will be able to create written products that are based on readers’ expectations, both in terms of genre targets and the flow of written contents. They will also be aware of the various characteristics and ideational structures of good writing (Aliyu et al., 2016).

Theoretical Interrelationships among Growth Mindset, Self-Efficacy, and Metacognition

6 *Students' Profiles of Academic Writing: The Interplay among Academic Writing Growth Mindsets, Self-Efficacy, and Metacognition*

Many studies in the different realms of academic writing have demonstrated the interrelatedness among growth mindset, self-efficacy, and metacognition. Reflected on a study conducted by Zander et al. (2018), people with growth mindsets likely have a higher level of self-efficacy. In the context of learning, the foregoing premise is supported by Rhew et al. (2018) as they explained that students with growth mindsets will perceive their learning experiences and the given feedback as the sources to learn better and to advance the expected outcomes of their learning trajectories. Hass et al. (2016) suggested that the constructs of growth mindsets and those of self-efficacy have been correlative in nature, thus they proposed that the measurement of growth mindsets as a study's variable should directly incorporate the theoretical indicators of self-efficacy. Subsequently, the studies conducted by Hayat et al. (2020) and Oyelekan et al. (2019) demonstrated the correlation between self-efficacy and metacognition. The foregoing correlation is also supported by Akamatsu et al., (2019) who revealed that self-efficacy mediates the relationship between learning behaviour and metacognition. Furthermore, a study conducted by Bai and Wang (2020) showcased that a motivational variable, such as a growth mindset, has also been proven to strongly predict self-regulated learning whose theoretical constructs exist in the same dimension of metacognition. The foregoing relationship has been explained by the implicit theory of intelligence, in which ones whose mindsets are fluid, in a way that they put their trust in their capabilities to make more learning efforts, become more competent at metacognition or metacognitive strategies (Blackwell et al., 2007; Yeager & Dweck, 2012).

The theoretical interplay among growth mindsets, self-efficacy, and metacognition as portrayed above enables us to formulate some hypotheses to examine the interrelationships of those variables in our study's context, namely undergraduate thesis academic writing. So far, no prior studies have been conducted to scrutinize the complete interrelationships among the variables of growth mindsets, self-efficacy, and metacognition in the field of undergraduate thesis academic writing as single studies. To formulate detailed hypotheses, we follow Dweck's (2006) explanations that the variable of academic writing self-efficacy falls into three sub-variables, namely self-efficacy for ideation, convention, and self-regulation. Hence, we seek to conduct an exploratory analysis by proposing the following hypotheses:

H1: Academic writing growth mindsets correlate with self-efficacy for academic writing ideation.

H2: Academic writing growth mindsets have a relationship with self-efficacy for academic writing convention.

H3: Academic writing growth mindsets correlate with self-efficacy for academic writing self-regulation.

H4: Self-efficacy for academic writing ideation has a relationship with on self-efficacy for academic writing convention.

H5: Self-efficacy for academic writing ideation correlates with self-efficacy for academic writing regulation.

H6: Self-efficacy for academic writing convention has a relationship with self-efficacy for academic writing regulation

H7: Self-efficacy for academic writing regulation correlates with academic writing metacognition.

METHOD

The current study sought to conduct an exploratory analysis of academic writing growth mindsets, self-efficacy, and metacognitions by examining seven hypotheses already formulated. The conceptual model grounded in the formulated hypotheses can be seen in figure 1.

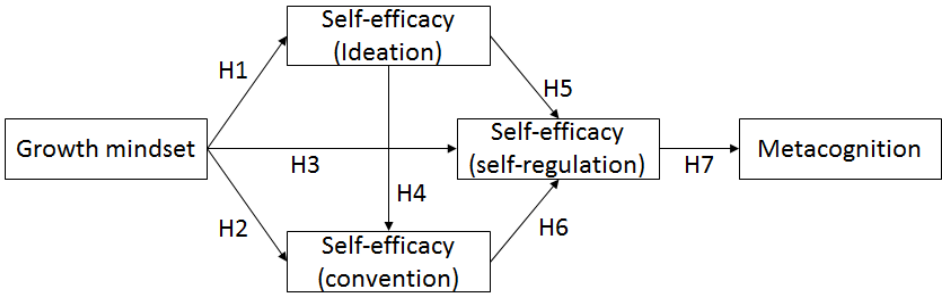

Figure 1
Conceptual Model

Respondents and Data Collection

This study employed a purposive sampling technique by targeting a population of 500 undergraduate students. The purposive sampling criterion was central to the students who were writing undergraduate theses during the COVID-19 pandemic. The targeted respondents were the students from varied departments at various universities in the provinces of Central Java and Papua, Indonesia. From the province of Central Java, there were four state universities and two private universities involved. In the province of Papua, there were two state universities incorporated. Out of their population, the student respondents were selected by distributing the links of online questionnaire already copied to the Google form. In so doing, the heads of each department, where the student respondents studied, helped us to distribute the questionnaire's links to the student respondents. Based on the distributed online questionnaire, we obtained responses from 464 students. Table 1 displays the demographic data of the student respondents.

Table 1
Demographic Information

		Number	%
Gender	Male	83	17.9
	Female	381	82.1

Age	18 years	1	0.2
	19 years	10	2.2
	20 years	28	6
	21 years	105	22.6
	22 years	184	39.7
	>22 years	134	28.9
Academic fields	Literature	220	47.4
	Education	241	52.6
Time spent on the social media (on a daily basis)	< 1 hour	50	10.8
	1-2 hours	71	15.3
	2-3 hours	75	16.2
	3-4 hours	89	19.2
	> 4 hours	179	38.6
Time spent to read a book or research article (on a daily basis)	< 1 hour	134	28.9
	1-2 hours	189	40.7
	2-3 hours	90	19.4
	3-4 hours	39	8.4
	> 4 hours	12	2.6
Time spent to use notebook/ laptop (on a daily basis)	< 1 hour	48	10.3
	1-2 hours	111	23.9
	2-3 hours	82	17.7
	3-4 hours	89	19.2
	> 4 hours	134	28.9

The demographic data in Table 1 show the characteristics of student respondents. In this study, there were 464 student respondents consisting of 183 males and 281 females. They aged from 19 to more than 22 years old. We also explored other demographic components related to their daily activities in accessing social media, reading books or research articles, and time spent using laptops or notebooks. As displayed in table 1, the ratio of daily time spent by the student respondents to access social media was proven to be more than the time spent for reading books or research articles.

Measures

We used an instrument in the form of an online questionnaire for data collection. The questionnaire consisted of three parts, namely the independent variable (exogenous), the dependent variable (endogenous), and the demographic variable. One of the exogenous variables incorporated in this study was growth mindsets (GM). The variable, functioned as an endogenous variable alongside an exogenous variable as well, was writing self-efficacy whose constructs comprised self-efficacy for ideation (SEi), self-efficacy for convention (SEc), and self-efficacy for self-regulation (SEsr). The variable of writing metacognition played a role as an endogenous variable. The demographic variable encompassed gender, age, provinces of the universities' origins, daily time spent for reading, and daily time spent for using laptops or netbooks. The total items of the questionnaire were 25 items. In detail, the 25 items represented exogenous and endogenous variables which were measured on an interval scale using a 5-point Likert scale (ranging from strongly disagree to strongly agree). The instrument was a

combination of several questionnaires adapted from previous studies conducted by Cooper et al. (2020) for the measure of growth mindsets, Bruning et al. (2013) for the measure of writing self-efficacy, and Karlen (2017) for the measure of writing meta-cognition. The expert validation and pilot testing of the instrument were carried out. In doing so, a couple of linguists were asked to review and revise ambiguous and unclear items. Subsequently, pilot testing was carried out by distributing a prototype questionnaire to 60 students. The piloting results were further analyzed using SPSS 23 to test the reliability and validity. The results of reliability test demonstrated that the score of Cronbach's Alpha was of 0.823, and the Bivarrate Pearson computation assigned to examine the validity resulted in the scores of r in the range from 0.61 to 0.83 with an r table of 0.138. The foregoing showcased that a good reliability score had been achieved, and the validity scores of all items were categorized as valid. The instrument was subsequently distributed online using the Google form.

RESULTS

Internal Consistency Measures for Measurement Model

This study applied a quantitative approach by deploying the Partial Least Squares Structural Equation Modelling (PLS-SEM) analysis (Hair Jr et al., 2014). The initial assessment of the model was conducted with the aim of performing a confirmatory factor analysis (CFA) on the type of reflective model to assess item loadings (Hair Jr et al., 2014). All item loadings of the five constructs (see Figure 1) showed values above 0.5 according to the minimum limit of item loadings (Hair Jr et al., 2016; Kline, 2015). Item loadings on the growth mindset construct ranged from 0.657 to 0.823; those of self-efficacy for ideation ranged from 0.808 to 0.873; those of self-efficacy for convention ranged from 0.798 to 0.841; those of self-efficacy for self-regulation ranged from 0.637 to 0.750; and those of metacognition ranged from 0.708 to 0.761. The implication of this figure demonstrated that the convergent validity had been achieved. The construct validity and reliability can be viewed in table 2.

Table 2
Construct validity and reliability

Construct	Cronbach's Alpha	rho_A	Composite Reliability	AVE
GM	0.733	0.784	0.825	0.543
MC	0.791	0.794	0.857	0.545
SEC	0.759	0.764	0.861	0.674
SEI	0.806	0.812	0.885	0.721
SESR	0.752	0.760	0.834	0.502

The next stage in the inner model evaluation was to assess the discriminant validity using the Heterotrait-Monotrait-Ratio (HTMT) assessment. This stage was taken to ensure that each construct was different from one another. The recommended threshold explained that the values might not exceed 0.85 (Henseler et al., 2015). The values obtained based on HTMT (see Table 3) showed a range of values from 0.239 to 0.837.

The foregoing confirmed that each construct in the model was different from one another. In conclusion, the discriminant validity had been achieved.

Table 3
Heterotrait-Monotrait-Ratio (HTMT)

Construct	GM	MC	SEC	SEI	SESR
GM					
MC	0.663				
SEC	0.424	0.739			
SEI	0.239	0.623	0.837		
SESR	0.501	0.759	0.719	0.561	

Multicollinearity

The analysis was further carried out using the Collinearity test. This stage was taken to verify whether, or not, there was multicollinearity in the variance inflation factors (VIF). This stage was critical to ensure that there was no multicollinearity because it could have an impact on the reliability and validity of the patch significance test (Kock, 2016). The recommended threshold for VIF might not exceed 3.3 (Hair Jr et al., 2016; Kock, 2016). The VIF obtained (see Table 4) demonstrated the gains between 1.000 and 1.921 for the five constructs. Accordingly, it could be concluded that, based on the Collinearity test, the resulting model did not have multicollinearity.

Table 4
Collinearity

Construct	GM	MC	SEC	SEI	SESR
GM			1.046	1.000	1.135
MC					
SEC					1.921
SEI			1.046		1.771
SESR		1.000			

Results of Path Analysis

The final stage of model analysis was the inner model evaluation through the bootstrapping stage with a significance level of 0.05 as shown in the graphical output in Figure 2.

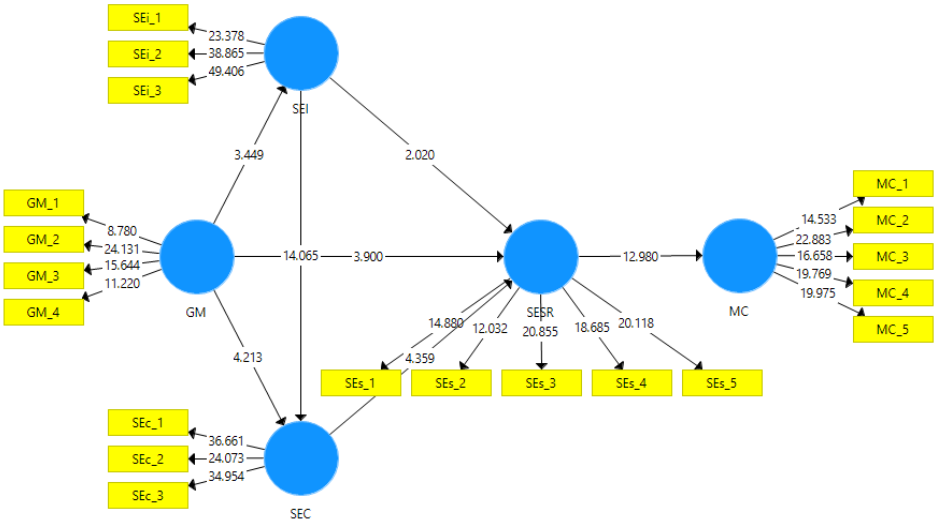

Figure 2
Bootstrap results for path analysis

The analysis used path coefficient/hypotheses examination and effect size determination (Hair Jr et al., 2016). Furthermore, in Table 5, paths analysis showed the standardized path coefficient at the level of a strong positive relationship (+1) (Hair Jr et al., 2016). In addition, the significance level used was 0.05, so that the hypothesis could be accepted with the t-Value criteria of > 1.96 (Wong, 2013). The analysis results showed that all hypotheses were accepted. For example, the relationships between growth mindsets and self-efficacy for ideation, convention, and self-regulation were positively significant as indicated by ($\beta = 0.20$; $p < 0.05$; $t = 3.449$; supporting H1); ($\beta = 0.21$; $p < 0.05$; $t = 4.213$; supporting H2); and ($\beta = 0.23$; $p < 0.05$; $t = 3.900$; supporting H3). Subsequently, the relationships between self-efficacy for ideation and self-efficacy for convention and between self-efficacy for ideation and self-efficacy for self-regulation were positively significant as demonstrated by ($\beta = 0.61$; $p < 0.05$; $t = 14.065$; supporting H4) and ($\beta = 0.15$; $p < 0.05$; $t = 2.020$; supporting H5). Furthermore, the relationship between self-efficacy for convention and self-efficacy for self-regulation was positively significant as indicated by ($\beta = 0.37$; $p < 0.05$; $t = 4.359$; supporting H6). Lastly, the relationship between self-efficacy for self-regulation and metacognition was also positively significant as demonstrated by ($\beta = 0.59$; $p < 0.05$; $t = 12.980$; supporting H7). Subsequently, based on the effect size (f2), the 4th, 6th, and 7th hypotheses had large effect sizes, and the remaining hypotheses had medium effect sizes based on the parameter values of .02, .15, and .35 which indicated small, medium, and large effects (Hair Jr et al., 2014). Finally, the obtained significant results were convincingly supported by the confidence level of 95% which had a minor error margin of 5%.

Table 5
Results of paths analysis

	Path	Beta Value	Std. Error	t- Value	p- Values	f^2	Results
H1	GM -> SEI	0.209	0.061	3.449	0.001	0.046	Supported
H2	GM -> SEC	0.216	0.051	4.213	0.000	0.085	Supported
H3	GM -> SESR	0.232	0.060	3.900	0.000	0.075	Supported
H4	SEI -> SEC	0.614	0.044	14.065	0.000	0.694	Supported
H5	SEI -> SESR	0.158	0.078	2.020	0.044	0.022	Supported
H6	SEC -> SESR	0.371	0.085	4.359	0.000	0.113	Supported
H7	SESR -> MC	0.592	0.046	12.980	0.000	0.540	Supported

Note: $p < 0.05$ indicates that the hypothesis is supported

DISCUSSION

The present study conducted an exploratory analysis of the interrelationships amongst academic writing growth mindsets, self-efficacy, and metacognition. This study proved that the seven hypotheses previously formulated were accepted. In so doing, positive and significant relationships were encountered between academic writing growth mindsets and self-efficacy for academic writing ideation, between academic writing growth mindsets and self-efficacy for academic writing convention, between academic writing growth mindsets and self-efficacy for academic writing self-regulation, between self-efficacy for academic writing ideation and self-efficacy for academic writing convention, between self-efficacy for academic writing ideation and self-efficacy for academic writing self-regulation, between self-efficacy for academic writing convention and self-efficacy for academic writing self-regulation, and between self-efficacy for academic writing self-regulation and academic writing metacognition.

The first, second, and third results of this study demonstrated that positive and significant relationships were proven between academic writing growth mindsets and self-efficacy for academic writing ideation ($\beta = 0.20$; $p < 0.05$; $t = 3.449$), between academic writing growth mindsets and self-efficacy for academic writing convention ($\beta = 0.21$; $p < 0.05$; $t = 4.213$), and between academic writing growth mindsets and self-efficacy for academic writing self-regulation ($\beta = 0.23$; $p < 0.05$; $t = 3.900$). As the foregoing, it could be interpreted that the students' beliefs in the enhancement of their knowledge or intelligence related to academic writing skills by virtue of making more efforts to learn and practice (Bai & Guo, 2018) would drive them to be confident in their abilities, techniques, and insights for generating ideas while writing, be confident in working with all writing-related tools, and be confident in managing their strategies during writing (Bruning, Dempsey, Kauffman, McKim, et al., 2013; Crossley et al., 2016; Mitchell, Harrigan, & McMillan, 2017). Brought to a more extensive view, the relationship between the variable of growth mindsets and that of self-efficacy has been examined across fields other than academic writing. For example, Zander et al. (2018) indicated that, in general, people with growth mindsets are more likely to have a high degree of self-efficacy. Derr and Morrow's (2020) study in developmental psychology showcased that an intervention for growth mindsets of personalities affects a high degree

of bullying defenders' self-efficacy. Burnette et al. (2020) in the field of entrepreneurship education demonstrated that an intervention of growth mindsets increases students' self-efficacy in entrepreneurship. Buenconsejo and Datu's (2020) research in the field of youth psychology revealed that growth mindsets influence self-efficacy in career development. Studies on the interrelationships between growth mindsets and self-efficacy can also be traced in the realms of computer programming (Pembridge & Rodgers, 2019), aesthetics psychology (Hass et al., 2016), math (Huang et al., 2019; Samuel & Warner, 2021), and university education learning (Zander et al., 2018). The three sets of the current study's data above helped to confirm the previous studies' data on the interrelatedness of growth mindsets and self-efficacy especially in the field of academic writing (undergraduate thesis writing), in which self-efficacy *per se*, grounded in Bruning et al. (2013), fell into three dimensions extending to writing ideation, writing convention, and writing self-regulation.

The fourth, fifth, and sixth results of this study indicated that academic writing self-efficacy for ideation positively and significantly correlated with academic writing self-efficacy for convention ($\beta = 0.21$; $p < 0.05$; $t = 4.213$); self-efficacy for academic writing ideation correlated with self-efficacy for academic writing self-regulation ($\beta = 0.15$; $p < 0.05$; $t = 2.020$); and self-efficacy for academic writing convention had a relationship with self-efficacy for academic writing self-regulation ($\beta = 0.37$; $p < 0.05$; $t = 4.359$). It could be understood that students' confidence in their abilities, techniques, and insights for generating and developing ideas while writing influenced their confidence in working with all academic writing tools (e.g. Vocabularies, grammar, mechanics, language features, sematic knowledge, morphological awareness, and genres) and also affected their confidence in the abilities to control and monitor the applications of their strategic knowledge and practical strategies of academic writing. Subsequently, the student writers' confidence in their abilities to use academic writing tools (e.g. Vocabularies, grammar, mechanics, language features, sematic knowledge, morphological awareness, and genres) supported their confidence in the abilities to control and monitor the applications of their strategic knowledge and practical strategies of academic writing. The aforementioned components of self-efficacy for idea generation, convention, and self-regulation are correlated in nature, and their detailed relationships can be viewed from Bruning's et al. (2013) study that tested the interrelatedness of the three components of self-efficacy in the context of writing. Aside from the essence of self-efficacy, the elements of writing ideation and convention are, by nature, related to each other. As such, Crossley et al. (2016) proved that idea generations are significantly related to the uses of language features in writing, such as varied and difficult words, varied units of words, non-repetitive words, and semantic knowledge. As depicted in their studies, students with good capabilities of generating ideas during writing were competent at applying language features that Bruning et al. (2013) called writing convention. Subsequently, according to Huerta et al. (2016), increasing student writers' beliefs about their abilities to apply multiple skills, strategies, and knowledge in a specific context during writing can be a great way to help students improve their writing performance. Writing self-efficacy itself is not something static. It is something fluid which can be enhanced as well (Mitchell et al., 2017). The nature of

self-efficacy *per se* has been explained by some scholars (Bandura, 2012; Grenner et al., 2021; M. Lee & Evans, 2019; Schunk & Usher, 2012), and they have reached an agreement on the conception that self-efficacy can be developed resting upon some conditions commonly known as active experiences, vicarious experiences, social persuasion, and people's emotional and physiological states. Active experiences portray the previously successful performances in a similar field. Vicarious experiences are affiliated with observing other people who perform similar tasks. Social persuasion occurs when other people express confidence in a person's abilities, or when they provide adequate feedback on that person's performance. In turn, emotional and physiological states in this case represent a person's emotional response to a task he is working on. Therefore, if student writers meet these conditions, their writing self-efficacy can be enhanced all together including all writing self-efficacy elements ranging from ideation, convention, to self-regulation.

The seventh result of this study uncovered that self-efficacy for academic writing regulation correlated with academic writing metacognition ($\beta = 0.59$; $p < 0.05$; $t = 12.980$). It could interpreted that the student writers' confidence in generating and developing ideas, using writing-related tools, and applying their writing strategic knowledge and practical strategies (Bruning et al., 2013; Mitchell, Harrigan, & McMillan, 2017) triggered their abilities to plan, monitor, and evaluate their written works (Sultan & Moqbali, 2020). Metacognition is used as a problem-solving technique in writing to deal with the complexities of writing (Briesmaster, 2017). Thus, in the current study, the student writers with high self-efficacy in thesis writing would be able to use their own controlled strategies to deal with various challenges in all thesis components during writing. In a similar vein, Akamatsu et al. (2019) discovered that self-efficacy mediates the relationship between learning behaviour and metacognition, lending credence to the preceding correlation.

An interesting point which could be learned from our study was that self-efficacy for academic writing regulation mediated the relationship between academic writing growth mindsets and academic writing metacognition. More extensively, the academic writing for self-regulation itself was influenced by other writing self-efficacy constituents, namely self-efficacy for ideation and self-efficacy for convention. Grounded in the aforementioned relationships, a practical implication can be drawn. It has been agreed that students with high writing metacognition will likely have good writing performance and skills (F. Teng, 2016). Metacognition has a significant impact on writing results as a higher-order cognitive function because it teaches students how to develop specific methods for dealing with each component of writing (Luo, 2017; Sultan & Moqbali, 2020). Learners with strong metacognition can construct successful interactions, critical arguments, and written argument rationales. The aforementioned abilities are required for writing (M. F. Teng, 2019), and the preceding clearly shows that writing metacognition has a theoretical relationship with writing performance and skills. Thus, in a practical way, it is suggested that in order to help students improve their academic writing performance and skills, metacognitive interventions are required. Within the metacognitive interventions, the input related to academic writing growth mindset and self-efficacy empowerments is critical and needs to be incorporated since academic

writing growth mindsets and the mediating role of academic writing self-efficacy will concomitantly support the development of academic writing metacognition.

It is important to be elucidated that our study is not without limitations. In terms of our professional affiliations as lecturers from Central Java and Papua, we were only able to reach undergraduate students from the same provinces as ours during the course of this study. Thus, involving more undergraduate students from other provinces with different demographic information may reveal different exploratory interrelationships among the variables of writing growth mindsets, writing self-efficacy, and writing metacognition. Despite this limitation, we had made concerted efforts to engage as many undergraduate students as possible from the two provinces (464 respondents) in order to generate strong and representative data. As a result, we were able to conduct an exploratory analysis of the seven hypotheses focusing on the interactions amongst academic writing growth mindsets, academic writing self-efficacy, and academic writing metacognition. Our study is unique due to the incorporation of the three variables as aforementioned into a single study. Nonetheless, if viewed according to each hypothesis we worked on but not pursuant to the whole incorporation of the three variables in a single study, each hypothesis formulated in this study has been confirmed and verified by a number of previous studies both in the same field and across different fields other than academic writing.

CONCLUSION

The exploratory analysis using PLS-SEM successfully highlights the interplay among academic writing growth mindsets, self-efficacy, and metacognition. In detail, positive and significant relationships are encountered between academic writing growth mindsets and self-efficacy for academic writing ideation, between academic writing growth mindsets and self-efficacy for academic writing convention, between academic writing growth mindsets and self-efficacy for academic writing self-regulation, between self-efficacy for academic writing ideation and self-efficacy for academic writing convention, between self-efficacy for academic writing ideation and self-efficacy for academic writing self-regulation, between self-efficacy for academic writing convention and self-efficacy for academic writing self-regulation, and between self-efficacy for academic writing self-regulation and academic writing metacognition. Also, it can be drawn that academic writing self-efficacy for self-regulation mediates the correlation between academic writing growth mindsets and academic writing metacognition. Together with growth mindsets, other constituents of academic writing self-efficacy, namely ideation and convention, concomitantly help affect academic writing metacognition. In practice, it is suggested that metacognitive interventions be required to assist students in improving their academic writing performance and skills. The input related to academic writing growth mindset and self-efficacy empowerments is critical and must be incorporated within the metacognitive interventions because academic writing growth mindsets and the mediating role of academic writing self-efficacy will both support the development of academic writing metacognition.

It is suggested that future's research be carried out to develop a structural model of academic writing factors by incorporating other variables which are influential, such as

critical thinking skills, or those that may potentially contribute to the various depictions of academic writing skills and the related internal constituents of academic writing skills. The more predicting variables the future's research can involve in, the more verified and scientific information such research can provide in efforts to help academic writing academicians and educators enhance their students' academic writing skills and performances.

REFERENCES

Adamson, J. L., Coulson, D., & Fujimoto-Adamson, N. (2019). Supervisory practices in English-medium undergraduate and postgraduate applied linguistics thesis writing: Insights from Japan-based tutors. *The Asian Journal of Applied Linguistics*, *6*(1), 14–27.

Akamatsu, D., Nakaya, M., & Koizumi, R. (2019). *behavioral sciences E ff ects of Metacognitive Strategies on the Self-Regulated Learning Process : The Mediating E ff ects of Self-E ffi cacy*.

Alberth. (2019). Use of Facebook, students' intrinsic motivation to study writing, writing self-efficacy and writing performance. *Technology, Pedagogy and Education*, *28*(1), 21–36. https://doi.org/10.1080/1475939X.2018.1552892

Alhassan, L., & Wood, D. (2015). The effectiveness of focused instruction of formulaic sequences in augmenting L2 learners' academic writing skills: A quantitative research study. *Journal of English for Academic Purposes*, *17*, 51–62. https://doi.org/10.1016/j.jeap.2015.02.001

Aliyu, M. M., Fung, Y. M., Abdullah, M. H., & Hoon, T. B. (2016). Developing undergraduates' awareness of metacognitive knowledge in writing through problem-based learning. *International Journal of Applied Linguistics and English Literature*, *5*(7), 233–240. https://doi.org/10.7575/aiac.ijalel.v.5n.7p.233

Altınmakas, D., & Bayyurt, Y. (2019). An exploratory study on factors influencing undergraduate students' academic writing practices in Turkey. *Journal of English for Academic Purposes*, *37*, 88–103. https://doi.org/10.1016/j.jeap.2018.11.006

Ansarifar, A., Shahriari, H., & Pishghadam, R. (2018). Phrasal complexity in academic writing: A comparison of abstracts written by graduate students and expert writers in applied linguistics. *Journal of English for Academic Purposes*, *31*, 58–71. https://doi.org/10.1016/j.jeap.2017.12.008

Bai, B., & Guo, W. (2018). Influences of self-regulated learning strategy use on self-efficacy in primary school students' English writing in Hong Kong. *Reading and Writing Quarterly*, *34*(6), 523–536. https://doi.org/10.1080/10573569.2018.1499058

Bai, B., & Wang, J. (2020). The role of growth mindset, self-efficacy and intrinsic value in self-regulated learning and English language learning achievements. *Language Teaching Research*, 1–22. https://doi.org/10.1177/1362168820933190

Bai, B., Wang, J., & Nie, Y. (2020). Self-efficacy, task values and growth mindset: what has the most predictive power for primary school students' self-regulated learning in

English writing and writing competence in an Asian Confucian cultural context? *Cambridge Journal of Education*, 1–20. https://doi.org/10.1080/0305764X.2020.1778639

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, *38*, 9–44.

Bassett, M. H. (2016). Teaching critical thinking without (much) writing: Multiple-choice and metacognition. *Teaching Theology and Religion*, *19*(1), 20–40. https://doi.org/10.1111/teth.12318

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, *78*(1), 246–263.

Briesmaster, M. (2017). Coherence and cohesion in EFL students' writing production : The impact of a metacognition-based intervention. *Ikala*, *22*(1), 183–202. https://doi.org/10.17533/udea.ikala.v22n02a02

Bruning, R., Dempsey, M., Kauffman, D. F., Mckim, C., & Zumbrunn, S. (2013). Examining dimensions of self-efficacy for writing. *Journal of Educational Psychology*, *106*(1), 25–38. https://doi.org/10.1037/a0029692

Bruning, R., Dempsey, M., Kauffman, D. F., McKim, C., & Zumbrunn, S. (2013). Examining dimensions of self-efficacy for writing. *Journal of Educational Psychology*, *105*(1), 25–38. https://doi.org/10.1037/a0029692

Buenconsejo, J. U., & Alfonso D. Datu, J. (2020). Growth and fixed mindsets about talent matter for career development self-efficacy in selected Filipino adolescents. *Children and Youth Services Review*, *118*, 1–6. https://doi.org/10.1016/j.childyouth.2020.105470

Burnette, J. L., Pollack, J. M., Forsyth, R. B., Hoyt, C. L., Babij, A. D., Thomas, F. N., & Coy, A. E. (2020). A growth mindset Intervention: Enhancing students' entrepreneurial self-efficacy and career development. *Entrepreneurship: Theory and Practice*, *44*(5), 878–908. https://doi.org/10.1177/1042258719864293

Callinan, C. J., van der Zee, E., & Wilson, G. (2018). Developing essay writing skills: an evaluation of the modelling behaviour method and the influence of student self-efficacy. *Journal of Further and Higher Education*, *42*(5), 608–622. https://doi.org/10.1080/0309877X.2017.1302564

Çandarl, D., Bayyurt, Y., & Mart, L. (2015). Authorial presence in l1 and l2 novice academic writing: Cross-linguistic and cross-cultural perspectives. *Journal of English for Academic Purposes*, *20*, 192–202. https://doi.org/10.1016/j.jeap.2015.10.001

Cer, E. (2019). The Instruction of Writing Strategies: The Effect of the Metacognitive Strategy on the Writing Skills of Pupils in Secondary Education. *SAGE Open*, *9*(2).

https://doi.org/10.1177/2158244019842681

Chakma, U., Li, B., & Kabuhung, G. (2021). Creating online metacognitive spaces: Graduate research writing during the covid-19 pandemic. *Issues in Educational Research*, *31*(1), 37–55.

Chen, J., & Zhang, L. J. (2019). Assessing student-writers' self-efficacy beliefs about text revision in EFL writing. *Assessing Writing*, *40*, 27–41. https://doi.org/10.1016/j.asw.2019.03.002

Chen, W., & Hapgood, S. (2021). Understanding knowledge, participation and learning in L2 collaborative writing: A metacognitive theory perspective. *Language Teaching Research*, *25*(2), 256–281. https://doi.org/10.1177/1362168819837560

Colognesi, S., Piret, C., & Demorsy, S. (2020). Teaching writing—with or without metacognition?: An exploratory study of 11-to 12-year-old students writing a book review. *International Electronic Journal of Elementary Education*, *12*(5), 459–470. https://doi.org/10.26822/iejee.2020562136

Cooper, J. B., Lee, S., Jeter, E., & Bradley, C. L. (2020). Psychometric validation of a growth Mindset and Team Communication Tool to measure self-views of growth mindset and team communication skills. *Journal of the American Pharmacists Association*, *60*(6), 818–826.

Crossley, S. A., Muldner, K., & Mcnamara, D. S. (2016). Idea generation in student writing: Computational assessments and links to successful writing. *Written Communication*, 1–27. https://doi.org/10.1177/0741088316650178

Csizér, K., & Tankó, G. (2017). English majors' self-regulatory control strategy use in academic writing and its relation to L2 motivation. *Applied Linguistics*, *38*(3), 386–404. https://doi.org/10.1093/applin/amv033

Cumming, A., Lai, C., & Cho, H. (2016). Students' writing from sources for academic purposes: A synthesis of recent research. *Journal of English for Academic Purposes*, *23*, 47–58. https://doi.org/10.1016/j.jeap.2016.06.002

Derr, S., & Morrow, M. T. (2020). Effects of a growth mindset of p0ersonality on emerging adults' defender self-efficacy, moral disengagement, and perceived peer defending. *Journal of Interpersonal Violence*, *35*(3–4), 542–570. https://doi.org/10.1177/0886260517713716

Dweck, C. S. (2006). *Mindset: The new psychology of success*. Random House. http://www.peterhoney.com

Ebadi, S., & Rahimi, M. (2018). An exploration into the impact of WebQuest-based classroom on EFL learners' critical thinking and academic writing skills: a mixed-methods study. *Computer Assisted Language Learning*, *31*(5–6), 617–651. https://doi.org/10.1080/09588221.2018.1449757

Escorcia, D., & Ros, C. (2019). What variables interact with metacognitive processes

related to writing in university students: The role of demographic and education factors. *Electronic Journal of Research in Educational Psychology*, *17*(49), 639–664. https://doi.org/10.25115/ejrep.v17i49.2486

Farahian, M., & Avarzamani, F. (2018). Corrigendum to: The impact of portfolio on EFL learners' metacognition and writing performance. *Cogent Education*, *11*(1). https://doi.org/10.1080/2331186X.2018.1450918

Flavell, J. H. (1979). Metacognition and Cognitive Monitoring: A New Era of Cognitive Developmental Inquiry. *American Psychologist*, *34*, : 906–911.

Grenner, E., Johansson, V., van de Weijer, J., & Sahlén, B. (2021). Effects of intervention on self-efficacy and text quality in elementary school students' narrative writing. *Logopedics Phoniatrics Vocology*, *46*(1), 1–10. https://doi.org/10.1080/14015439.2019.1709539

Guraya, S. Y., & Guraya, S. S. (2017). The confounding factors leading to plagiarism in academic writing and some suggested remedies: A systematic review. *Journal of the Pakistan Medical Association*, *67*(5), 767–772.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.

Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*.

Han, J., & Hiver, P. (2018). Genre-based L2 writing instruction and writing-specific psychological factors: The dynamics of change. *Journal of Second Language Writing*, *40*, 44–59. https://doi.org/10.1016/j.jslw.2018.03.001

Hass, R. W., Katz-Buonincontro, J., & Reiter-Palmon, R. (2016). Disentangling creative mindsets from creative self-efficacy and creative identity: Do people hold fixed and growth theories of creativity. *Psychology of Aesthetics, Creativity, and the Arts*, *10*(4), 436–446. https://doi.org/10.1037/aca0000081

Hayat, A. A., Shateri, K., Amini, M., & Shokrpour, N. (2020). *Relationships between academic self- efficacy , learning-related emotions , and metacognitive learning strategies with academic performance in medical students : a structural equation model*. 1–11.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135.

Howe, L., & Wig, A. Van. (2017). Metacognition via creative writing: dynamic theories of learning support habits of the mind in 21st century classrooms. *Journal of Poetry Therapy*, *30*(3), 139–152. https://doi.org/10.1080/08893675.2017.1328830

Huang, X., Zhang, J., & Hudson, L. (2019). Impact of math self-efficacy, math anxiety,

and growth mindset on math and science career interest for middle school students: the gender moderating effect. *European Journal of Psychology of Education*, *34*(3), 621–640. https://doi.org/10.1007/s10212-018-0403-z

Huerta, M., Goodson, P., Beigi, M., Chlup, D., Huerta, M., Goodson, P., & Beigi, M. (2016). Graduate students as academic writers : writing anxiety , self-efficacy and emotional intelligence. *Higher Education Research & Development*, 1–14. https://doi.org/10.1080/07294360.2016.1238881

Jafarigohar, M., & Mortazavi, M. (2016). The impact of scaffolding mechanisms on efl learners' individual and socially shared metacognition in writing. *Reading and Writing Quarterly*, *33*(3), 211–225. https://doi.org/10.1080/10573569.2016.1154488

Karlen, Y. (2017). The development of a new instrument to assess metacognitive strategy knowledge about academic writing and its relation to self-regulated writing and writing performance. *Journal of Writing Research*, *9*(1), 61–86. https://doi.org/10.17239/jowr-2017.09.01.03

Karlen, Y., & Compagnoni, M. (2017). Implicit theory of writing ability: Relationship to metacognitive strategy knowledge and strategy use in academic writing. *Psychology Learning and Teaching*, *16*(1), 47–63. https://doi.org/10.1177/1475725716682887

Kiriakos, C. M., & Tienari, J. (2018). Academic writing as love. *Management Learning*, *49*(3), 263–277. https://doi.org/10.1177/1350507617753560

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.

Kock, N. (2016). Advantages of nonlinear over segmentation analyses in path models. *International Journal of E-Collaboration (Ijec)*, *12*(4), 1–6.

Kuiken, F., & Vedder, I. (2020). The interplay between academic writing abilities of Dutch undergraduate students, a remedial writing programme, and academic achievement. *International Journal of Bilingual Education and Bilingualism*, 1–12. https://doi.org/10.1080/13670050.2020.1726280

Lee, I., & Mak, P. (2018). Metacognition and metacognitive instruction in second language writing classrooms. *TESOL Quarterly*, *52*(4), 1–13. https://doi.org/10.1002/tesq.436

Lee, M., & Evans, M. (2019). Investigating the operating mechanisms of the sources of l2 writing self-efficacy at the stages of giving and receiving peer feedback. *Modern Language Journal*, *103*(4), 831–847. https://doi.org/10.1111/modl.12598

Limpo, T., & Alves, R. A. (2017). Relating beliefs in writing skill malleability to writing performance: The mediating role of achievement goals and self-efficacy. *Journal of Writing Research*, *9*(2), 97–124. https://doi.org/10.17239/jowr-2017.09.02.01

Loughlin, V. D. O., & Griffith, L. M. (2020). Developing student metacognition through reflective writing in an upper level undergraduate anatomy course. *Anatomical Sciences*

Education, *13*(6), 680–693. https://doi.org/10.1002/ase.1945

Luo, Y. (2017). Engineering majors' metacognitive strategy use in EFL writing: A case study within the Web-based environments. *World Transactions on Engineering and Technology Education*, *15*(4), 323–330.

Miller, R. T., & Pessoa, S. (2016). Where's your thesis statement and what happened to your topic sentences? identifying organizational challenges in undergraduate student argumentative writing. *TESOL Journal*, *7*(4), 847–873. https://doi.org/10.1002/tesj.248

Mitchell, K. M., Harrigan, T., & McMillan, D. E. (2017). Writing self-efficacy in nursing students: The influence of a discipline-specific writing environment. *Nursing Open*, *4*, 240–250. https://doi.org/10.1002/nop2.90

Mitchell, K. M., Harrigan, T., Stefansson, T., & Setlack, H. (2017). Exploring self-effifficacy and anxiety in first-year nursing students enrolled in a discipline-specifific scholarly writing course. *Quality Advancement in Nursing Education*, *3*(1), 1–23. https://doi.org/10.17483/2368-6669.1084

Mitchell, K. M., Mcmillan, D. E., Lobchuk, M. M., Nickel, N. C., Rabbani, R., & Li, J. (2021). Development and validation of the situated academic writing self-efficacy scale (SAWSES). *Assessing Writing*, *48*, 1–20. https://doi.org/10.1016/j.asw.2021.100524

Murtadho, F. (2021). Metacognitive and critical thinking practices in developing EFL students' argumentative writing skills. *Indonesian Journal of Applied Linguistics*, *10*(3), 656–666. https://doi.org/10.17509/ijal.v10i3.31752

Negretti, R., & McGrath, L. (2018). Scaffolding genre knowledge and metacognition: Insights from an L2 doctoral research writing course. *Journal of Second Language Writing*, *40*, 12–31. https://doi.org/10.1016/j.jslw.2017.12.002

Oyelekan, O. S., Jolayemi, S. S., Upahi, J. E., Education, T., & Africa, S. (2019). *Cypriot Journal of Educational*. *14*(2), 208–221.

Pembridge, J. J., & Rodgers, K. J. (2019). Examining self-efficacy and growth mindset in an introductory computing course. *Proceedings - Frontiers in Education Conference, FIE*, 1–5. https://doi.org/10.1109/FIE.2018.8658728

Pitenoee, M. R., & Modaberi, A. (2017). The effect of cognitive and metacognitive writing strategies on content of the iranian intermediate efl learners' writing. *Journal of Language Teaching and Research*, *8*(3), 594–600. https://doi.org/10.17507/jltr.0803.19

Puryantoa, E., Rasyidb, Y., & Murtadhoc, F. (2021). Prior knowledge-based metacognition strategies in developing students' writing skills assessment tools: Preparing the student teachers. *Asian EFL Journal*, *28*(1), 85–108.

Ramadhanti, D., Ghazali, A. S., Hasanah, M., Harsiati, T., & Yanda, D. P. (2020). The use of reflective journal as a tool for monitoring of metacognition growth in writing. *International Journal of Emerging Technologies in Learning*, *12*(11), 162–187. https://doi.org/10.3991/IJET.V15I11.11939

Reig, A. (2020). Metacognitive regulation and metalinguistic activity during a collaborative writing composition process based on reading from sources. *Bellaterra Journal of Teaching & Learning Language & Literature*, *13*(3), 1–21. https://doi.org/10.5565/rev/jtl3.857

Rhew, E., Piro, J. S., Goolkasian, P., & Cosentino, P. (2018). The effects of a growth mindset on self-efficacy and motivation. *Cogent Education*, *5*(1), 1–16. https://doi.org/10.1080/2331186X.2018.1492337

Sabti, A. A., Md Rashid, S., Nimehchisalem, V., & Darmi, R. (2019). The impact of writing anxiety, writing achievement motivation, and writing self-efficacy on writing performance: A correlational study of Iraqi tertiary EFL learners. *SAGE Open*, *9*(4), 1–13. https://doi.org/10.1177/2158244019894289

Samuel, T. S., & Warner, J. (2021). "I can Math!": Reducing Math anxiety and increasing Math self-efficacy using a mindfulness and growth mindset-based intervention in first-year students. *Community College Journal of Research and Practice*, *45*(3), 205–222. https://doi.org/10.1080/10668926.2019.1666063

Sanchez, N., Norka, A., Corbin, M., & Peters, C. (2019). Use of experiential learning, reflective writing, and metacognition to develop cultural humility among undergraduate students. *Journal of Social Work Education*, *55*(1), 75–88. https://doi.org/10.1080/10437797.2018.1498418

Schunk, D. H., & Usher, E. L. (2012). Social cognitive theory and motivation. In *The Oxford handbook of human motivation* (pp. 13–27). Oxford University Press.

Sudirman, S. A., Nurmandi, A., & Bashori, K. (2020). English writing skills through perception of siri' cultural values: Optimism, social support, and academic self-efficacy. *Cakrawala Pendidikan*, *39*(2), 242–256. https://doi.org/10.21831/cp.v39i2.26118

Suen, R. (2021). EFL students' perceptions of transferable writing skills and knowledge for undergraduate thesis writing from an EAP research writing course. *Asian EFL Journal*, *28*(1), 286–314.

Sultan, I., & Moqbali, A. (2020). Metacognitive writing strategies used by Omani grade twelve students. *International Journal of Learning, Teaching and Educational Research*, *19*(8), 214–232. https://doi.org/10.26803/ijlter.19.8.12

Teng, F. (2016). Immediate and delayed effects of embedded metacognitive instruction on Chinese EFL students' English writing and regulation of cognition. *Thinking Skills and Creativity*, *22*, 289–302. https://doi.org/10.1016/j.tsc.2016.06.005

Teng, M. F. (2019). The role of metacognitive knowledge and regulation in mediating university EFL learners ' writing performance. *Innovation in Language Learning and Teaching*, 1–15. https://doi.org/10.1080/17501229.2019.1615493

Truax, M. L. (2018). The Impact of Teacher Language and Growth Mindset Feedback on Writing Motivation. *Literacy Research and Instruction*, *57*(2), 135–157. https://doi.org/10.1080/19388071.2017.1340529

Vincent, C., Tremblay-Wragg, É., Déri, C., Plante, I., & Mathieu Chartier, S. (2021). How writing retreats represent an ideal opportunity to enhance PhD candidates' writing self-efficacy and self-regulation. *Teaching in Higher Education*, 1–20. https://doi.org/10.1080/13562517.2021.1918661

Weaver, K. F., Morales, V., Nelson, M., Weaver, P. F., Toledo, A., & Godde, K. (2016). The benefits of peer review and a multisemester capstone writing series on inquiry and analysis skills in an undergraduate thesis. *CBE Life Sciences Education*, *15*(4), ar51.1-ar51.9. https://doi.org/10.1187/cbe.16-01-0072

Wong, K. K.-K. (2013). Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS. *Marketing Bulletin*, *24*(1), 1–32.

Wu, D., Dang, W., He, D., & Bi, R. (2017). Undergraduate information behaviors in thesis writing: A study using the Information Search Process model. *Journal of Librarianship and Information Science*, *49*(3), 256–268. https://doi.org/10.1177/0961000616654960

Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: when students believe that personal characteristics can be developed. *Educational Psychologist*, *47*(4), 302–314. https://doi.org/10.1080/00461520.2012.722805

Zaki, A. A., & Md Yunus, M. (2015). Potential of mobile learning in teaching of ESL academic writing. *English Language Teaching*, *8*(6), 11–19. https://doi.org/10.5539/elt.v8n6p11

Zander, L., Brouwer, J., Jansen, E., Crayen, C., & Hannover, B. (2018). Academic self-efficacy, growth mindsets, and university students' integration in academic and social support networks. *Learning and Individual Differences*, *62*, 98–107. https://doi.org/10.1016/j.lindif.2018.01.012

Dokumen pendukung luaran Tambahan #1

Luaran dijanjikan: Artikel pada Conference/Seminar Internasional di Pengindeks Bereputasi

Target: Terbit dalam Prosiding
Dicapai: Submited

Dokumen wajib diunggah:
1. Naskah artikel
2. Bukti submit

Dokumen sudah diunggah:
1. Naskah artikel
2. Bukti submit

Dokumen belum diunggah:
-

Peran penulis: first author
Nama Konferensi/Seminar: The 67th TEFLIN International Virtual Conference & The 9th ICOELT 2021
Lembaga penyelenggara: TEFLIN
Tempat penyelenggara: Padang
Tgl penyelenggaraan mulai: 9 September 2021 | Tgl selesai: 11 September 2021
Lembaga pengindeks: Scopus
URL website: http://teflinic2020.fbs.unp.ac.id/
Judul artikel: Interactions amongst Indonesian EFL Students' Growth Mindsets, Self-Efficacy, Metacognition, and Academic Writing Performance

Interactions amongst Indonesian EFL Students' Growth Mindsets, Self-Efficacy, Metacognition, and Academic Writing Performance

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ABSTRACT

Current literature on EFL academic writing performance has offered a number of strong factorial variables. These variables comprise growth mindsets, self-efficacy, and metacognition. However, there is a dearth of studies incorporating these variables into single studies in the context of academic writing performance. Also, very few studies as such have been undertaken amongst Indonesian EFL undergraduate students. Accordingly, the present study sought to conduct a structural model assessment to examine the interactions amongst growth mindsets, self-efficacy, metacognition, and academic writing performance. Academic writing in this study was associated with EFL undergraduate thesis writing. 464 undergraduate students who majored in EFL education and literature from Central Java and Papua were selected conveniently to be the respondents. The data from respondents were collected using a valid and reliable questionnaire. The questionnaire covering four variables was distributed online to obtain the data. PLS-SEM 23 was used to analyze the data. The results of the structural model assessment showcased that the six formulated hypotheses were accepted. As the foregoing, positive and significant relationships were proven between writing growth mindsets and writing self-efficacy, between writing growth mindsets and writing metacognition, between writing growth mindsets and academic writing performance, between writing self-efficacy and writing metacognition, between writing self-efficacy and academic writing performance, and between writing metacognition and academic writing performance. Further studies are expected to develop a structural model of academic writing factors by incorporating other influential variables, such as personality traits or those which potentially contribute to learning differences.

Keywords: *Growth mindsets, self-efficacy, metacognition, academic writing performance*

1. INTRODUCTION

Academic writing, in general, is seen as a type of interactive communication between a writer and readers in which the writer discusses a topic in-depth and in a scientific manner with the goal of giving reliable information to the readers [1]. Academic writing, on the writer's part, includes logical and intellectual processes in terms of processing and conveying information. Because of the sequential works on idea brainstorming, planning, drawing the conceptual framework of what to write down, producing a draft, proofreading, and revising, academic writing becomes complex and challenging in nature [2]. Not only must an academic writer be accurate and fluent in the use of academic words, collocations, phrases, and grammatical complexities [3], he must also be skilled at mapping references related to the addressed discourse [4] and making arguments with good and comprehensible idea organizations resting upon the addressed discourse [5].

At the tertiary level, among undergraduate students, academic writing is often associated with research-based writing or the so-called thesis writing, which is the last step they must complete before receiving their bachelor's degrees [6]. There are six main stages the undergraduate students should follow while writing theses. Those steps are deciding on the research direction by involving supervisors to determine the definite study's topic, deciding on a subject for the study, reviewing related literature and conducting the study, creating the thesis draft, revising and finishing

the thesis, and taking the thesis exam [7]. Each step of research-based academic writing is complicated in its own way [8]. Students often encounter problems as a result of a lack of understanding about academic writing styles and inefficient compositions in the areas of both concept organization and language structures [9]. Furthermore, the procedures of data presentation and discussions often entrap students in rumination. As a result, the persistence of students' long-term and active involvement in dealing with all phases of academic writing, as well as their comprehensive contents, is critical [10]. According to Guraya and Guraya, students' academic writing abilities and their knowledge of research ethics also influence their success in academic writing [11].

Learning from previous research, certain external variables in the form of tutors' or supervisors' interventions that contribute to the improvement of students' academic writing abilities have been discovered. Adamson et al. conducted research that showed the significance of supervisors' responsibilities in assisting students in writing academic works [12]. According to their findings, supervisors' roles such as scaffolding students, holding continuous discussions with students to help them deal with English and non-English resources, providing direct corrective and metalinguistic feedback, and assisting students in mapping their concepts are critical factors that support students' success in academic writing. The research conducted by [13] confirmed that providing a remedial program to extensively educate students whose academic writing competence has not met the anticipated criteria is beneficial to their academic writing skills development. Miller and Pessoa suggested that students be explicitly taught about how to arrange their thoughts for writing [14]. Following that, Suen's study showed that a research-based academic writing workshop contributes to the improvement of students' academic writing abilities [15].

Aside from external variables, the complex structure of academic writing, which includes logical and critical processes of ideational and language use-related organizations, needs strong internal elements amid students, such as growth mindsets, self-efficacy, and metacognition [16], [17]. To begin, a growth mindset is an idea that intelligence can be developed and enhanced through hard work [18]. According to Truax, the inclusion of a growth mindset in teacher feedback, combined with truth-based praises, leads to an increase in students' writing motivation [19]. Second, self-efficacy is a motivational component that reflects a person's conviction in his own capacity to create or accomplish the desired outcomes from the hard effort he puts in [20]. Huerta et al. found that developing confidence in one's skills or self-efficacy to write in specific circumstances is an essential endeavor to enhance one's writing performance [21]. Third, metacognition is described as students' awareness of their own thinking processes, which allows them to reflect on their knowledge and the procedures of successfully managing their own cognitive or thinking activities to accomplish the anticipated learning objectives [22]. Metacognition, as a higher-order cognitive function, has a significant impact on writing results because it teaches students how to create particular methods for dealing with each component of writing [23].

Prior studies on writing that focused on the variables of growth mindsets, self-efficacy, and metacognition have been conducted in the last five years, and such studies have been very beneficial to us, providing us with adequate knowledge and data about the roles of the aforementioned three variables in writing. Nonetheless, those studies appear to have addressed the variables of growth mindsets, self-efficacy, metacognition, and academic writing performance as single variables or merely incorporating some out of the four variables in single studies (see studies conducted by Chakma et al. [24]; Chen and Zhang [25]; Grenner et al. [26]; Lee and Evans [27]; Loughlin and Griffith [28]; Murtadho [29]; Puryantoa et al. [30]; Ramadhanti et al. [31]; Reig [32]; Sanchez et al. [33]; and Sudirman et al. [34]). Nonetheless, to the best of our knowledge, no previous research has focused on performing an exploratory investigation into the interactions among growth mindsets, self-efficacy, metacognition, and academic writing performance as a whole in a single study. Furthermore, no prior research with the aforementioned goal has been found in the publications of Indonesian academics so far. Therefore, the current study aims to fill the aforementioned gap by conducting an exploratory analysis of the interactions between growth mindsets, self-efficacy, metacognition, and academic writing performance in the context of EFL undergraduate students from the Indonesian population dealing with undergraduate thesis writing. We intentionally bring the context of EFL undergraduate students due to our positions as EFL academicians of Indonesia.

2. LITERATURE REVIEW

2.1. Growth Mindset

The so-called fixed mindset is one of the factors impeding students' writing skill development [35]. Such a mindset prevents students from realizing their potential to improve their writing skills. Students should understand the nature of a mindset as something fluid that can be constructed and co-constructed to help motivate them to achieve their ideal writing skills. Dweck asserted that a mindset is flexible in the sense that it can change and be controlled as desired, so students can choose to have a growth mindset in a

specific realm to achieve their ideal mastery [35]. A growth mindset is defined as the belief that intelligence can be forged and improved through effort, and it is a significant predictor of the use of general learning strategies [18]. Students' growth mindsets can be a motivator for their learning development because they will be more confident in learning after reviewing their most recent learning outcomes. The essence of growth mindsets is critical to writing because the complexity of writing processes (e.g., planning, drafting, proofreading, and revising) will cause students to give up if they find it difficult to work on those writing steps. With a growth mindset, students will see the complex processes of writing as stages of learning in which they must participate. According to Truax, teachers' motivational talks and written feedback can improve students' growth mindsets [19]. Furthermore, once students develop growth mindsets, they can devote their self-regulated learning efforts to improving their writing skills [36].

2.2. Self-efficacy

Self-efficacy is a motivational component that reflects a person's conviction in his own capacity to create or accomplish the desired outcomes from the hard effort he puts in [20]. A person with adequate efficacy will be confident in his capacity to set objectives, carry out goal-based tasks, and create a representative environment for attaining these goals [36]. Several academicians who work in the area of self-efficacy believe that self-efficacy is built on four indicators: active experiences, vicarious experiences, social persuasion, and people's emotional and physiological conditions. Active experiences depict prior successful achievements in a comparable area. Observing other individuals do comparable activities is associated with vicarious experiences. When other individuals show confidence in a person's skills or give appropriate feedback on that person's performance, social persuasion happens. In this instance, emotional and physiological states reflect a person's emotional reaction to a job he is working on [26], [27].

Self-efficacy is the main motivator for students and an indication that promotes students' participation in learning. Different approaches to students' written works in terms of writing may be based on their varying degrees of self-efficacy or confidence in their ability to work on the papers [37]. Writing self-efficacy is described as everything inherent in authors' ideas about their capacity to write, such as abilities that need numerous skills, methods, and knowledge in a particular situation [38]. Increasing one's self-efficacy or confidence in one's skills to write in certain circumstances is therefore considered as an essential endeavor to enhance one's writing performance [17]. Bruning et al. proposed three categories of writing self-efficacy: ideation, convention, and self-regulation [39]. The first illustrates self-efficacy in terms of developing and molding the ideas, principles, and reasoning that serve as the basis for writing. The second shows self-efficacy in terms of developing linguistic abilities, such as when authors communicate their thoughts utilizing words, grammatical structures, and language discourse organization. The third reflects the writer's self-efficacy in terms of self-management and emotional control, which includes evaluations of the cognitive and linguistic characteristics of the work produced. Affective or motivational variables such as self-efficacy, according to research, are significantly linked to increasing writing abilities [40]. Han and Hiver conducted a study that supports the same condition [41].

2.3. Metacognition

Metacognition refers to students' awareness of their own thinking processes, which allows them to reflect on their knowledge, as well as the procedures of successfully managing their own cognitive or thinking activities to accomplish the anticipated learning objectives [22], [42]. In some aspects, metacognition reflects students' autonomous abilities in planning, monitoring, regulating, assessing, and reflecting on the outcomes of learning assessments [43]. Metacognition, in particular, is the manifestation of two major markers known as metacognitive knowledge and regulation. The former includes declarative knowledge such as consciousness of what is already known, procedural knowledge connected with awareness of how to use what is already known, and conditional knowledge relevant to awareness of when and why using what is already known [22]. Furthermore, the latter is associated with three abilities: planning, in which learners are able to select appropriate strategies and collect learning resources, monitoring, in which learners apply specific strategies to observe the effectiveness of learning processes, and evaluating, in which learners are capable of measuring learning outcomes in order to make decisions on the best way to collaborate [44].

When writing, students use metacognition as a problem-solving technique [45]. Writing is regarded as a complicated recursive process that involves interactive phases of planning, creating an outline, generating a written product, and editing a written product from a cognitive perspective. All of these processes are linked to students' conscious control over tasks including planning, monitoring, evaluating, and self-regulation. Metacognition, as a higher-order cognitive function, has a significant impact on writing results because it teaches students how to create particular methods for dealing with each component of writing [23]. Learners that have strong metacognition will be able to construct successful interactions, critical arguments, and rationales of their written arguments. The aforementioned abilities are critical components of writing [44]. Furthermore,

metacognition helps pupils in autonomously planning, monitoring, and assessing their written work. According to Escorcia and Ros, when students are skilled at using metacognitive techniques, they will be able to produce written products that are based on readers' expectations, both in terms of genre goals and the flow of written contents [46]. They will also be aware of the different features and conceptual frameworks of excellent writing [47].

2.4. Academic Writing Performance

Academic writing performance refers to the ability to demonstrate analytical and critical thinking during writing. In such a way, the writers applied their abilities to reason and persuade in scientific ways, comprehend the addressed issues, and build up their arguments in written works [48]. Academic writing becomes complex and challenging in nature as the aforementioned abilities cover the sequential works on idea brainstorming, planning, drawing the conceptual framework of what to write down, producing a draft, proofreading, and revising [49]. Academic writers must use academic words, collocations, phrases, and grammatical complexities correctly and fluently [50]. They must also be capable of mapping references related to the addressed discourse [4] and constructing arguments based on good and understandable idea organizations resting upon the addressed discourse [5]. Academic writing performance in the context of university students, for example, students of EFL education and literature majors, pertains to research-based writing known as thesis writing, which becomes the final step they must complete before receiving their bachelor's degrees [6]. Academic writing performance for university students includes their abilities to work on complex writing activities such as determining the definite study's topic, deciding on a subject for the study, reviewing related literature and conducting the study, creating the thesis draft, revising and finishing the thesis [8].

2.5. Theoretical Interplay among Growth Mindsets, Self-Efficacy, Metacognition, and Academic Writing Performance

Many studies in various fields besides academic writing have shown the interrelationships of growth mindset, self-efficacy, and metacognition. According to Zander et al., people with growth mindsets are more likely to have a high level of self-efficacy [51]. The preceding premise is supported in the context of learning by Rhew et al., who explained that students with growth mindsets will perceive their learning experiences and feedback as sources to learn better and advance the expected outcomes of their learning trajectories [52]. Hass et al. proposed that because the constructs of growth mindsets and self-efficacy are correlative in nature, measuring growth mindsets as a study variable should directly incorporate the theoretical indicators of self-efficacy [53]. Following that, Hayat et al. and Oyelekan et al. conducted studies that demonstrated a link between self-efficacy and metacognition [54], [55]. Akamatsu et al. discovered that self-efficacy mediates the relationship between learning behavior and metacognition, lending credence to the preceding correlation [56]. Furthermore, Bai et al. demonstrated that a motivational variable, such as a growth mindset, has been shown to strongly predict self-regulated learning whose theoretical constructs exist in the same dimension of metacognition [16]. The preceding relationship has been explained by the implicit theory of intelligence, in which those with fluid mindsets put their trust in their abilities to make more learning efforts and become more competent at metacognition or metacognitive strategies [57].

The essence of growth mindsets is critical to writing because the complexity of writing processes (e.g., planning, drafting, proofreading, and revising) will cause students to give up if they find those writing steps difficult to work on. Students with a growth mindset will see complex writing processes as stages of learning in which they must participate [19]. Theoretically, this demonstrates that writing growth mindsets influence writing performance. Writing self-efficacy is defined as everything inherent in authors' beliefs about their ability to write, such as abilities that necessitate a wide range of skills, methods, and knowledge in a given situation [38]. Theoretically, writing self-efficacy is related to writing performance. According to Vincent et al., increasing one's self-efficacy or confidence in one's ability to write under certain conditions is a necessary endeavor for improving one's writing performance [17]. As a higher-order cognitive function, metacognition has a significant impact on writing results because it teaches students how to develop specific methods for dealing with each component of writing [23], [58]. Learners with strong metacognition can build successful interactions, critical arguments, and rationales of their written arguments. The aforementioned abilities are essential components of writing [44], and the foregoing clearly demonstrates that writing metacognition has a theoretical relationship with writing performance.

The theoretical interrelationships among growth mindsets, self-efficacy, and metacognition as well as the theoretical correlations of writing growth mindsets, writing self-efficacy, and writing metacognition with writing performance above drive us to formulate the following hypotheses. In our hypotheses below, we orient the variable of wiring performance as academic writing performance to sensitize our study’s context concerning the writing of EFL undergraduate theses.

H1: Writing growth mindsets have a relationship with writing self-efficacy.

H2: Writing growth mindsets have a relationship with writing metacognition.

H3: Writing growth mindsets have a relationship with academic writing performance.

H4: Writing self-efficacy has a relationship with writing metacognition.

H5: Writing self-efficacy has a relationship with academic writing performance.

H6: Writing metacognition has a relationship with academic writing performance.

The above hypotheses become the bases for drawing the conceptual model of this study. The conceptual model is displayed in figure 1.

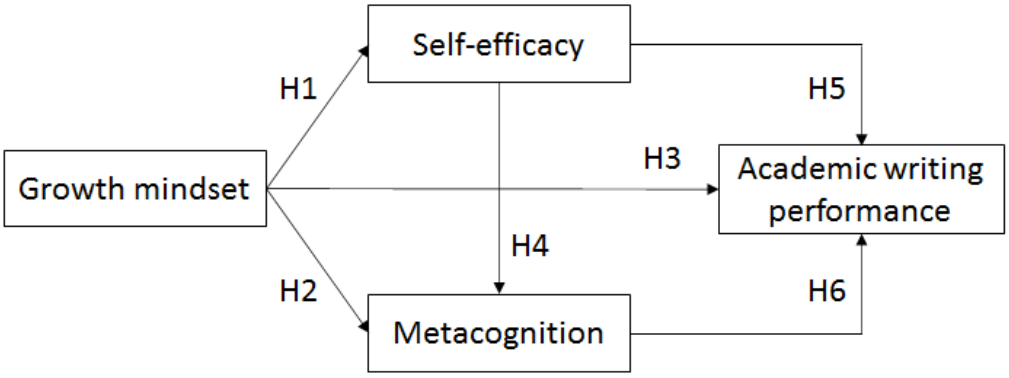

Figure 1. Conceptual model

3. METHOD

The current study sought to conduct an exploratory analysis of growth mindsets, self-efficacy, metacognition, and academic writing performances by examining six hypotheses already formulated. The conceptual model grounded in the formulated hypotheses can be seen in figure 1.

3.1. Respondents and Data Collection

This study involved student respondents from eight universities in the provinces of Central Java and Papua. The sample was selected purposively with the criterion of students from English language and English literature education departments, who were writing their undergraduate theses (see Table 1). The data were garnered using an online questionnaire copied to a Google form. The questionnaire's links were distributed to students via Whatsapp groups in the first week of June 2021. Based on the recorded responses, there were 464 students involved as the respondents.

Table 1. Demographic information

		Number	%
Gender	Male	83	17.9
	Female	381	82.1
Age	18 years	1	0.2
	19 years	10	2.2
	20 years	28	6
	21 years	105	22.6
	22 years	184	39.7
	>22 years	134	28.9
Academic fields	Literature	220	47.4
	Education	241	52.6
Time spent on the social media (on a daily basis)	< 1 hour	50	10,8

	1-2 hours	71	15.3
	2-3 hours	75	16.2
	3-4 hours	89	19.2
	> 4 hours	179	38.6
Time spent to read a book or research article (on a daily basis)	< 1 hour	134	28.9
	1-2 hours	189	40.7
	2-3 hours	90	19.4
	3-4 hours	39	8.4
	> 4 hours	12	2.6
Time spent to use notebook/ laptop (on a daily basis)	< 1 hour	48	10.3
	1-2 hours	111	23.9
	2-3 hours	82	17.7
	3-4 hours	89	19.2
	> 4 hours	134	28.9

Table 1 displays demographic information about student respondents. There were 464 student respondents in this study, with 183 males and 281 females. They ranged in age from 19 to more than 22 years. We also looked into other demographic factors such as how much time they spent on social media, reading books or research articles, and how much time they spent on laptops or notebooks. As shown in table 1, the ratio of daily time spent by student respondents on social media was found to be greater than the time spent reading books or researching articles.

3.2. Measures

The online questionnaire distributed to respondents was adapted from previous studies. the questionnaire comprised items representing the variables of growth mindset [59], writing self-efficacy [39], writing meta-cognition [60], academic writing performance [61], and demographic information. Each variable contained five questions so that the total number of items was 25 items. The face validation of the questionnaire was executed by involving two experts, namely university professors with disciplines in English language education and linguistics. Furthermore, based on the pilot testing to 60 students from one university in Central Java and one in Papua, we further conducted the reliability and validity tests using the SPSS 23. Based on the measurements, the instrument was categorized as having a good degree of reliability with Cronbach Alpha of .823, and each item was categorized as valid due to *r* values between .61 to .83 and the r table of .138.

3.3. Data Analysis

This quantitative study adopted a survey strategy with the aim of exploring the relationships among writing growth mindsets, writing self-efficacy, writing meta-cognition, and academic writing performance. Data analysis used PLS-SEM modeling with three stages including model specification measurement, outer model, and inner model evaluation. The first stage was executed by constructing the inner and outer models (exogenous and endogenous constructs). The second stage was carried out with the composite reliability evaluation, convergent validity assessment, and discriminatory validity assessment. The final stage was coefficient analysis, cross-validated redundancy, path coefficient, and effect size.

4. RESULTS

4.1. Model Specification

The first phase of analysis was model specification with confirmatory factor analysis (see Figure 2). In the designed model, the exogenous construct was growth mindsets (GM); the exogenous constructs which at the same time also became endogenous constructs self-efficacy (SE) and metacognition (MC); and the endogenous construct was academic writing performance (AWP). The model specification had 4 inner models with 19 outer models. The model was categorized as a reflective model.

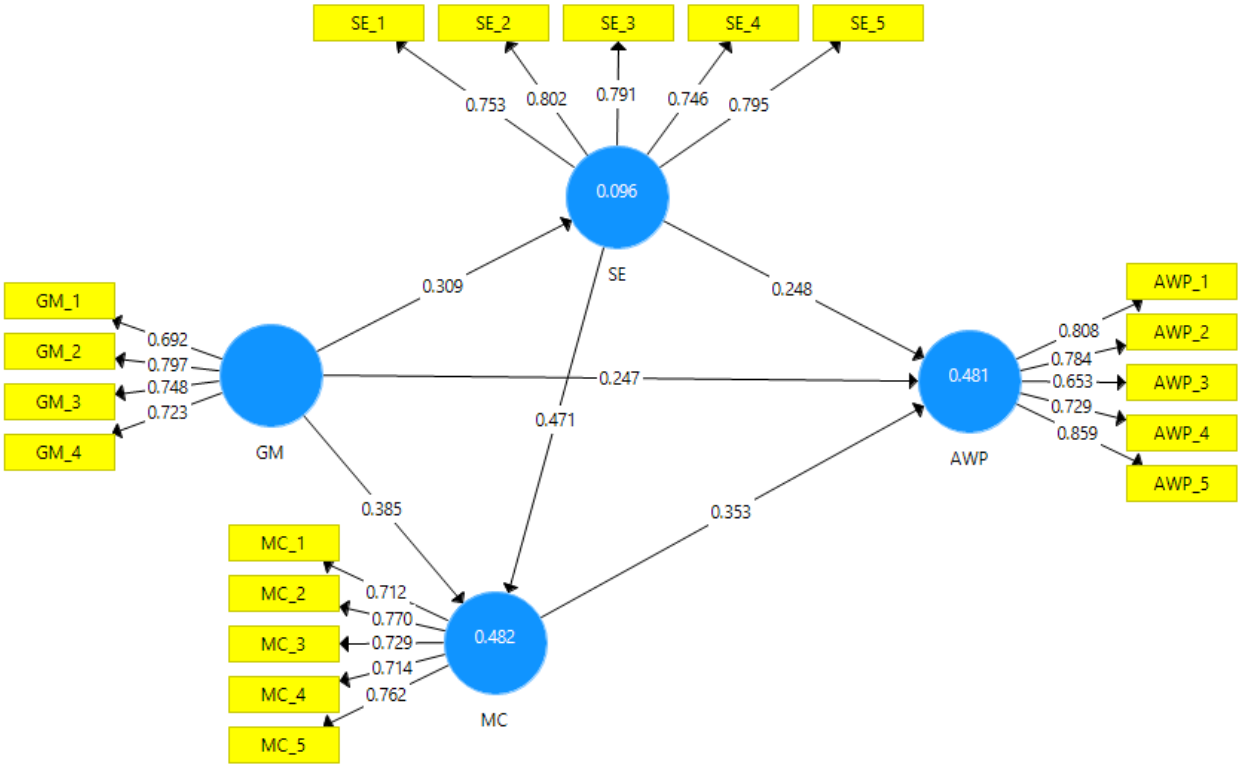

Figure 2. Confirmatory factor analysis of reflective model

4.2. Outer Model Evaluation

The second phase was the outer model evaluation to assess indicators of reliability and internal consistency reliability. In assessing the reliability indicator, item loadings (see Figure 2.) were measured with a recommended threshold of .5 as the minimum [62]. Based on the assessment, dropping was carried out on the item loading of GM_5 because it had a value of .48. Furthermore, the remaining item loadings were categorized as feasible with the values ranging from .692 to .859, so that the reliability indicator was established. Subsequently, an assessment of the internal consistency reliability was carried out to obtain a composite reliability value. The threshold used to assess the composite reliability value was in the range of .70 to .90 [63]. The composite reliability value from the analysis results (see Table 2.) was at the values of .829 to .884, categorized as satisfactory reliability.

Table 2. Composite reliability and average variance extracted (AVE)

	Composite Reliability	AVE
AWP	0.878	0.592
GM	0.829	0.549
MC	0.857	0.545
SE	0.884	0.605

To ensure the model's validity, the assessments of convergent validity and discriminant validity were carried out. Convergent validity assessment was used to obtain the value of Average Variance Extracted (AVE) with a recommended threshold that must exceed .50 [64]. Based on Table 2, the values of AVE obtained were in the range of .545 to .605. Thus, the convergent validity had been achieved. The final stage of the second phase was to conduct a discriminant validity assessment by assessing the Heterotrait-monotrait Ratio (HTMT) acquisition rate. The required threshold was not to exceed .85 [65]. In Table 3, the values obtained were in the range of .363 to .775. Thus, the discriminant validity had been achieved.

Table 3. Heterotrait-monotrait ratio (HTMT)

	AWP	GM	MC	SE
AWP				
GM	0.633			
MC	0.775	0.663		
SE	0.636	0.363	0.712	

4.3. Inner Model Evaluation

The third phase was the inner model evaluation to assess the structural model that reflected the relationships among variables and tested the hypotheses in the inner model. The first stage of the inner model evaluation was carried out by conducting a Collinearity test to obtain the Variance Inflation Factor (VIF) value. The recommended VIF threshold should be lower than three (3) [66]. The values of VIF obtained (Table 4) were in the range of 1.000 to 1.931, where there was no Collinearity issue.

Table 4. Variance inflation factor (VIF)

	AWP	GM	MC	SE
AWP				
GM	1.393		1.106	1.000
MC	1.931			
SE	1.534		1.106	

The second stage of the inner model evaluation was the coefficient determination which was used to obtain the predictive accuracy (R2) value in the model. The predictive accuracy values (Table 5) showed that only AWP and MC had substantial categories. These values were according to the recommended categories: great, moderate, and substantial (.75, .50, .25) [67]. The third stage of the inner model evaluation was to assess the cross-validated redundancy to get predictive relevance by calculating the Q2 values in the inner model. In Table 6, we got two constructs with Q2 scores that fell into the medium category (AWP and MC) and one construct that fell into the small (SE) category based on the category proposed by Hair Jr et al. [67], which had small (0.), medium (0.25) and substantial (0.50) categories.

Table 5. R-Square (R2) value

	R Square
AWP	0.481
MC	0.482
SE	0.096

Table 6. Predictive relevance (Q2)

	SSO	SSE	Q^2 (=1-SSE/SSO)
AWP	1.255.000	913.718	0.272
GM	1.004.000	1.004.000	
MC	1.255.000	937.098	0.253
SE	1.255.000	1.189.560	0.052

The fourth stage of the inner model evaluation was the path coefficients assessment used to assess the hypotheses. We determined that the constructs in the model had interrelationships by referring to the numbers in the path coefficient with the category from -1 (strongly negative relationship) to +1 (strongly positive relationship) [67]. Table 7 showed that, based on the acquisition of path coefficient numbers, all paths in the model had strongly positive relationship values in the range of .247 to .471.

Table 7. Structural model assessment

	Path Coefficients	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
GM -> SE	0.309	0.309	0.317	0.056	5.499	0.000
GM -> MC	0.385	0.385	0.392	0.052	7.356	0.000
GM -> AWP	0.247	0.247	0.254	0.058	4.289	0.000
SE -> MC	0.471	0.471	0.469	0.049	9.645	0.000
SE -> AWP	0.248	0.248	0.249	0.060	4.111	0.000
MC -> AWP	0.353	0.353	0.348	0.071	4.970	0.000

By doing bootstrapping with a significance level of 0.05 on the model, we used the reference criteria for the accepted hypotheses which must have T Statistics of > 1.96 [68]. Based on the obtained T Statistics (see Table 7 or path value in Figure 3), we found that the six hypotheses were accepted. The growth mindset variable had positive, significant relationships with self-efficacy ($p < 0.05$; $t = 5.449$; supporting H1), metacognition ($p <$

0.05; t = 7356; supporting H2), and academic writing performance (p < 0.05; t = 4.289; supporting H3). Meanwhile, self-efficacy was also shown to have positive, significant relationships with metacognition (p < 0.05; t = 9,645; supporting H4) and academic writing performance (p < 0.05; t = 4,111; supporting H5). Furthermore, metacognition also had a positive, significant relationship with academic writing performance (p < 0.05; t = 4.970; supporting H6).

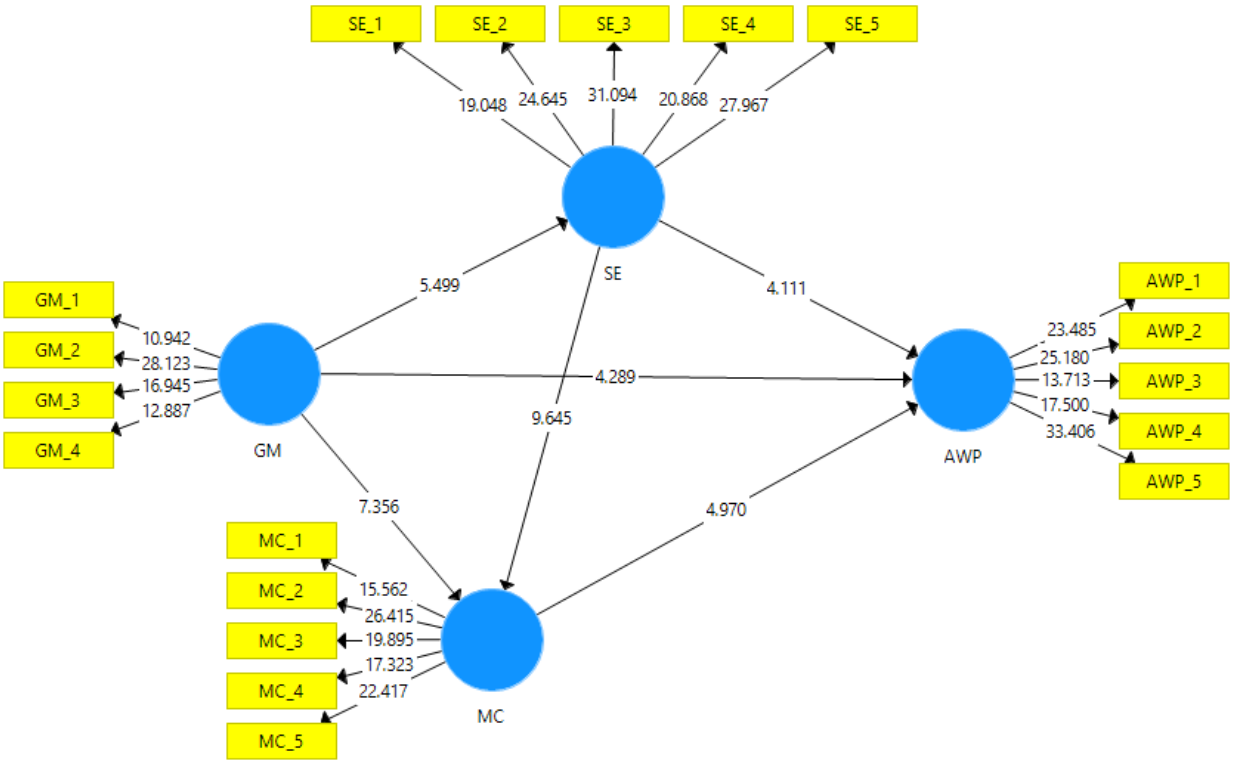

Figure 3. Structural model assessment

The final stage of the inner model evaluation was to assess the effect size (f2) of the accepted hypotheses (Table 8). Based on the parameters of the values of .02, .15, and .35 which indicated small, medium, and large effects [67], it could be concluded that H6 had a large effect value; H2 had a medium effect value; and other hypotheses had small effect values. Finally, an important concept arose from the accepted hypotheses based on the data analysis. We were confident in the reliability and validity of the findings of this study because, in a convincing way, we deployed an error margin of 5% with a confidence level of 95%.

Table 8. Effect size

	AWP	GM	MC	SE
AWP				
GM	0.084		0.259	0.106
MC	0.125			
SE	0.077		0.387	

5. DISCUSSION

The main orientation of the present study is to highlight the interactions among writing growth mindsets, writing self-efficacy, writing metacognition, and academic writing performance amongst undergraduate students who majored in EFL education and literature. The main results of the present study scientifically proved that the six hypotheses were accepted. As the foregoing, this study showcased that writing growth mindsets had a relationship with writing self-efficacy; writing growth mindsets had a relationship with writing metacognition; writing growth mindsets had a relationship with academic writing performance; writing self-efficacy had a relationship with writing metacognition; writing self-efficacy had a relationship with academic writing performance; and writing metacognition had a relationship with academic writing performance.

The first result of this study demonstrated that writing growth mindsets positively and significantly correlated with writing self-efficacy (p < 0.05; t = 5.449). It means that EFL undergraduate students' beliefs in the

improvement of their academic writing abilities due to more learning efforts and practices [36] would trigger their confidence in their skills, methods, and knowledge about producing good written works [69]. This has also been depicted in Zander's et al. study that ones with growth mindsets are prone to having a high level of self-efficacy [51]. For more details, the relationship between growth mindsets and self-efficacy has also been proven by a couple of prior studies across various fields other than academic writing. For instance, in the field of developmental psychology, Derr and Morrow's study depicted that the intervention for growth mindsets of personalities affects a high level of bullying defenders' self-efficacy [70]. In the field of entrepreneurship education, Burnette et al. proved that the intervention of growth mindsets increases students' self-efficacy in entrepreneurship [71]. In the field of youth psychology, Buenconsejo and Datu portrayed a condition that growth mindsets influence ones' self-efficacy in career development [72]. The interrelationships between growth mindsets and self-efficacy can also be traced in the fields of aesthetics psychology [53], math [73], [74], computer programing [75], and learning in tertiary education [51]. This set of present study's data contributed to confirm the aforementioned studies on the interrelatedness of growth mindsets and self-efficacy in the field of academic writing specifically for EFL undergraduate thesis writing.

The second result of the current study indicated that writing growth mindsets positively and significantly correlated with writing metacognition ($p < 0.05$; $t = 7.356$). It could be interpreted that EFL undergraduate students who believe that their academic writing abilities could be enhanced through efforts [36] had sufficient knowledge and control over working on all thesis elements [23]. The interplay between growth mindsets and metacognition has also been confirmed by a study executed by Bai et al. [16]. Their study showed that a growth mindset as a variable of motivation strongly predicts self-regulated learning as a constituent of metacognition's construct. Theoretically, the preceding relationship has been explained by the implicit theory of intelligence delineated by Yeager and Dweck, in which those with fluid mindsets put their trust in their abilities to make more learning efforts and become more competent at metacognition or metacognitive strategies [57].

The third result of this study showcased that writing growth mindsets positively and significantly correlated academic writing performance ($p < 0.05$; $t = 4.289$). This set of data implied that EFL undergraduate students, who put their trust in the enhancement of their academic writing abilities because of effort investment, would perform better in thesis writing. It means that their growth mindsets would support their thesis writing performances, starting out from determining the definite study's topic, deciding on a subject for the study, reviewing related literature and conducting the study, creating the thesis draft, revising, to finishing the thesis [8]. The essence of growth mindsets is critical to writing because the complexity of writing processes (e.g., planning, drafting, proofreading, and revising) will cause students to give up if they find those writing steps difficult to work on. Aligned with the foregoing, Truax explained that students with a growth mindset will see complex writing processes as stages of learning they must deliberately and consciously take part in [19].

The fourth result of the current study proved that writing self-efficacy positively and significantly correlated with writing metacognition ($p < 0.05$; $t = 9.645$). It means that EFL undergraduate students' beliefs in their skills, methods, and knowledge about producing well-written works [38] would drive the increases in their knowledge and control over dealing with each component of undergraduate thesis writing [23]. In writing, metacognition plays a role as the problem-solving technique to deal with the complexities of writing [45]. Thus, in the current study, EFL undergraduate students with high self-efficacy in thesis writing would be capable of using their own controlled strategies to cope with various challenges in all thesis components during writing. The correlation of self-efficacy and metacognition highlighted in the present study is also supported by Akamatsu et al. who discovered that self-efficacy mediates the relationship between learning behavior and metacognition, lending credence to the preceding correlation [56].

The fifth result of the current study showed that writing self-efficacy has a relationship with academic writing performance (($p < 0.05$; $t = 4.111$). It could be interpreted that EFL undergraduate students who were confident in their skills, methods, and knowledge about producing good written works [38] would demonstrate desirable competencies in the aspects of determining the research topic, deciding on a subject for the research, reviewing literature and undertaking the research, writing the thesis draft, revising the thesis draft, and finishing the thesis [8]. This result is in line with Vincent's et al. elaboration in that increasing one's self-efficacy or confidence in one's ability to write under certain conditions is a necessary endeavor for improving one's writing performance [17]. Similarly, theoretical explanations about the link between writing self-efficacy and writing performance could also be traced in the prior studies conducted by Han and Hiver [41] and Sabti et al. [40]. The current study's data supported the aforesaid correlation especially in the context of EFL undergraduate thesis as one constituent of the academic writing genre.

The sixth result of this study proved that writing metacognition positively and significantly correlated with academic writing performance ($p < 0.05$; $t = 4.970$). It means that the extent to which the EFL undergraduate

students were knowledgeable and capable of controlling their strategies for working on all thesis components [23] determined their performance related to determining the research topic, deciding on a subject for the research, reviewing literature and undertaking the research, writing the thesis draft, revising the thesis draft, and finishing the thesis [8]. The influential role of writing metacognition in terms of academic writing performance has also been portrayed by a couple of previous studies. A study conducted by Teng indicated that learners that have strong metacognition will be able to construct successful interactions, critical arguments, and rationale of their written arguments [44]. According to Escorcia and Ros, when students are skilled at using metacognitive techniques, they will be able to produce written products that are based on readers' expectations, both in terms of genre-related goals and the flow of written contents [46]. In their study, Aliyu et al. highlighted that learners with good metacognition will be aware of the different features and conceptual frameworks of excellent writing [47].

This study has successfully examined the six formulated hypotheses and proven that each hypothesis has been accepted by showing a positive and significant correlation between the variables assigned in each hypothesis. However, this study is not free from limitations. Concerning our professional affiliations as lecturers of EFL education and literature from Central Java and Papua, during the conduction of this study, we could only reach EFL undergraduate students from the same provinces as ours. In such a way, the involvement of more EFL undergraduate students from other provinces with different demographic information might reveal different exploratory interrelationships among the variables of writing growth mindsets, writing self-efficacy, writing metacognition, and academic writing performance. Albeit such a study's limitation, we have made serious efforts to engage as many as possible EFL undergraduate students from the two provinces (464 respondents) in order that we could generate strong and representative data. As a result, we have been successful to conduct an exploratory analysis on the six hypotheses comprising the interactions amongst writing growth mindsets, writing self-efficacy, writing metacognition, and academic writing performance. The incorporation of the aforementioned variables is novel in our study. However, if classified according to each hypothesis, each hypothesis confirmed and was respectively verified by a number of previous studies in the same field and across different fields other than academic writing.

6. CONCLUSION

Drawing upon the structural model assessment, this study examines six hypotheses incorporating the interactions among writing growth mindsets, writing self-efficacy, writing metacognition, and academic writing performance. The context of academic writing performance brought in this study is associated with EFL undergraduate thesis writing. The results of the structural model assessment demonstrate that writing growth mindsets have a positive and significant relationship with writing self-efficacy. Writing growth mindsets have a positive and significant relationship with writing metacognition. Writing growth mindsets have a positive and significant relationship with academic writing performance. Writing self-efficacy has a positive and significant relationship with writing metacognition. Writing self-efficacy has a positive and significant relationship with academic writing performance. Lastly, writing metacognition has a positive and significant relationship with academic writing performance. The results of the current study depict that writing growth mindsets, writing self-efficacy, and writing metacognition are critical and predicting factors that determine academic writing performance.

It is recommended that further studies be conducted to develop a structural model of academic writing factors by incorporating other variables which are influential such as personality traits or those which potentially contribute to learning differences. The more predicting variables involved in studies, the more verified and scientific information can be disseminated to help academic writing academicians and educators improve students' academic writing performances and competencies.

AUTHORS' CONTRIBUTIONS

All authors have contributed to this study in a balanced way.

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REFERENCES

[1] D. Çandarl, Y. Bayyurt, and L. Mart, "Authorial presence in l1 and l2 novice academic writing: Cross-linguistic and cross-cultural perspectives," *J. English Acad. Purp.*, vol. 20, pp. 192–202, 2015, doi: 10.1016/j.jeap.2015.10.001.

[2] C. M. Kiriakos and J. Tienari, "Academic writing as love," *Manag. Learn.*, vol. 49, no. 3, pp. 263–277, 2018, doi: 10.1177/1350507617753560.

[3] A. Ansarifar, H. Shahriari, and R. Pishghadam, "Phrasal complexity in academic writing: A comparison of abstracts written by graduate students and expert writers in applied linguistics," *J. English Acad. Purp.*, vol. 31, pp. 58–71, 2018,

doi: 10.1016/j.jeap.2017.12.008.
[4] A. Cumming, C. Lai, and H. Cho, “Students’ writing from sources for academic purposes: A synthesis of recent research,” *J. English Acad. Purp.*, vol. 23, pp. 47–58, 2016, doi: 10.1016/j.jeap.2016.06.002.
[5] S. Ebadi and M. Rahimi, “An exploration into the impact of WebQuest-based classroom on EFL learners’ critical thinking and academic writing skills: a mixed-methods study,” *Comput. Assist. Lang. Learn.*, vol. 31, no. 5–6, pp. 617–651, Jul. 2018, doi: 10.1080/09588221.2018.1449757.
[6] K. F. Weaver, V. Morales, M. Nelson, P. F. Weaver, A. Toledo, and K. Godde, “The benefits of peer review and a multisemester capstone writing series on inquiry and analysis skills in an undergraduate thesis,” *CBE Life Sci. Educ.*, vol. 15, no. 4, p. ar51.1-ar51.9, 2016, doi: 10.1187/cbe.16-01-0072.
[7] D. Wu, W. Dang, D. He, and R. Bi, “Undergraduate information behaviors in thesis writing: A study using the Information Search Process model,” *J. Librariansh. Inf. Sci.*, vol. 49, no. 3, pp. 256–268, 2017, doi: 10.1177/0961000616654960.
[8] M. Huerta, P. Goodson, M. Beigi, and D. Chlup, “Graduate students as academic writers: writing anxiety, self-efficacy and emotional intelligence,” *High. Educ. Res. Dev.*, vol. 36, no. 4, pp. 716–729, 2017, doi: 10.1080/07294360.2016.1238881.
[9] A. A. Zaki and M. Md Yunus, “Potential of mobile learning in teaching of ESL academic writing,” *English Lang. Teach.*, vol. 8, no. 6, pp. 11–19, 2015, doi: 10.5539/elt.v8n6p11.
[10] D. Altınmakas and Y. Bayyurt, “An exploratory study on factors influencing undergraduate students’ academic writing practices in Turkey,” *J. English Acad. Purp.*, vol. 37, pp. 88–103, 2019, doi: 10.1016/j.jeap.2018.11.006.
[11] S. Y. Guraya and S. S. Guraya, “The confounding factors leading to plagiarism in academic writing and some suggested remedies: A systematic review,” *J. Pak. Med. Assoc.*, vol. 67, no. 5, pp. 767–772, 2017.
[12] J. L. Adamson, D. Coulson, and N. Fujimoto-Adamson, “Supervisory practices in English-medium undergraduate and postgraduate applied linguistics thesis writing: Insights from Japan-based tutors,” *Asian J. Appl. Linguist.*, vol. 6, no. 1, pp. 14–27, 2019.
[13] F. Kuiken and I. Vedder, “The interplay between academic writing abilities of Dutch undergraduate students, a remedial writing programme, and academic achievement,” *Int. J. Biling. Educ. Biling.*, pp. 1–12, 2020, doi: 10.1080/13670050.2020.1726280.
[14] R. T. Miller and S. Pessoa, “Where’s your thesis statement and what happened to your topic sentences? identifying organizational challenges in undergraduate student argumentative writing,” *TESOL J.*, vol. 7, no. 4, pp. 847–873, 2016, doi: 10.1002/tesj.248.
[15] R. Suen, “EFL students’ perceptions of transferable writing skills and knowledge for undergraduate thesis writing from an EAP research writing course,” *Asian EFL J.*, vol. 28, no. 1, pp. 286–314, 2021.
[16] B. Bai, J. Wang, and Y. Nie, “Self-efficacy, task values and growth mindset: what has the most predictive power for primary school students’ self-regulated learning in English writing and writing competence in an Asian Confucian cultural context?,” *Cambridge J. Educ.*, pp. 1–20, 2020, doi: 10.1080/0305764X.2020.1778639.
[17] C. Vincent, É. Tremblay-Wragg, C. Déri, I. Plante, and S. Mathieu Chartier, “How writing retreats represent an ideal opportunity to enhance PhD candidates’ writing self-efficacy and self-regulation,” *Teach. High. Educ.*, pp. 1–20, 2021, doi: 10.1080/13562517.2021.1918661.
[18] L. S. Blackwell, K. H. Trzesniewski, and C. Dweck, “Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention,” *Child Dev.*, vol. 78, no. 1, pp. 246–263, 2007.
[19] M. L. Truax, “The Impact of Teacher Language and Growth Mindset Feedback on Writing Motivation,” *Lit. Res. Instr.*, vol. 57, no. 2, pp. 135–157, 2018, doi: 10.1080/19388071.2017.1340529.
[20] K. M. Mitchell, D. E. Mcmillan, M. M. Lobchuk, N. C. Nickel, R. Rabbani, and J. Li, “Development and validation of the situated academic writing self-efficacy scale (SAWSES),” *Assess. Writ.*, vol. 48, pp. 1–20, 2021, doi: 10.1016/j.asw.2021.100524.
[21] M. Huerta *et al.*, “Graduate students as academic writers : writing anxiety , self-efficacy and emotional intelligence,” *High. Educ. Res. Dev.*, pp. 1–14, 2016, doi: 10.1080/07294360.2016.1238881.
[22] W. Chen and S. Hapgood, “Understanding knowledge, participation and learning in L2 collaborative writing: A metacognitive theory perspective,” *Lang. Teach. Res.*, vol. 25, no. 2, pp. 256–281, 2021, doi: 10.1177/1362168819837560.
[23] I. Sultan and A. Moqbali, “Metacognitive writing strategies used by Omani grade twelve students,” *Int. J. Learn. Teach. Educ. Res.*, vol. 19, no. 8, pp. 214–232, 2020, doi: 10.26803/ijlter.19.8.12.
[24] U. Chakma, B. Li, and G. Kabuhung, “Creating online metacognitive spaces: Graduate research writing during the covid-19 pandemic,” *Issues Educ. Res.*, vol. 31, no. 1, pp. 37–55, 2021.
[25] J. Chen and L. J. Zhang, “Assessing student-writers’ self-efficacy beliefs about text revision in EFL writing,” *Assess. Writ.*, vol. 40, pp. 27–41, 2019, doi: 10.1016/j.asw.2019.03.002.
[26] E. Grenner, V. Johansson, J. van de Weijer, and B. Sahlén, “Effects of intervention on self-efficacy and text quality in elementary school students’ narrative writing,” *Logop. Phoniatr. Vocology*, vol. 46, no. 1, pp. 1–10, 2021, doi: 10.1080/14015439.2019.1709539.

[27] M. Lee and M. Evans, “Investigating the operating mechanisms of the sources of l2 writing self-efficacy at the stages of giving and receiving peer feedback,” *Mod. Lang. J.*, vol. 103, no. 4, pp. 831–847, 2019, doi: 10.1111/modl.12598.

[28] V. D. O. Loughlin and L. M. Griffith, “Developing student metacognition through reflective writing in an upper level undergraduate anatomy course,” *Anat. Sci. Educ.*, vol. 13, no. 6, pp. 680–693, 2020, doi: 10.1002/ase.1945.

[29] F. Murtadho, “Metacognitive and critical thinking practices in developing EFL students’ argumentative writing skills,” *Indones. J. Appl. Linguist.*, vol. 10, no. 3, pp. 656–666, 2021, doi: 10.17509/ijal.v10i3.31752.

[30] E. Puryantoa, Y. Rasyidb, and F. Murtadhoc, “Prior knowledge-based metacognition strategies in developing students’ writing skills assessment tools: Preparing the student teachers,” *Asian EFL J.*, vol. 28, no. 1, pp. 85–108, 2021.

[31] D. Ramadhanti, A. S. Ghazali, M. Hasanah, T. Harsiati, and D. P. Yanda, “The use of reflective journal as a tool for monitoring of metacognition growth in writing,” *Int. J. Emerg. Technol. Learn.*, vol. 12, no. 11, pp. 162–187, 2020, doi: 10.3991/IJET.V15I11.11939.

[32] A. Reig, “Metacognitive regulation and metalinguistic activity during a collaborative writing composition process based on reading from sources,” *Bellaterra J. Teach. Learn. Lang. Lit.*, vol. 13, no. 3, pp. 1–21, 2020, doi: 10.5565/rev/jtl3.857.

[33] N. Sanchez, A. Norka, M. Corbin, and C. Peters, “Use of experiential learning, reflective writing, and metacognition to develop cultural humility among undergraduate students,” *J. Soc. Work Educ.*, vol. 55, no. 1, pp. 75–88, 2019, doi: 10.1080/10437797.2018.1498418.

[34] S. A. Sudirman, A. Nurmandi, and K. Bashori, “English writing skills through perception of siri’ cultural values: Optimism, social support, and academic self-efficacy,” *Cakrawala Pendidik.*, vol. 39, no. 2, pp. 242–256, 2020, doi: 10.21831/cp.v39i2.26118.

[35] C. S. Dweck, *Mindset: The new psychology of success*. New York: Random House, 2006.

[36] B. Bai and W. Guo, “Influences of self-regulated learning strategy use on self-efficacy in primary school students’ English writing in Hong Kong,” *Read. Writ. Q.*, vol. 34, no. 6, pp. 523–536, 2018, doi: 10.1080/10573569.2018.1499058.

[37] C. J. Callinan, E. van der Zee, and G. Wilson, “Developing essay writing skills: an evaluation of the modelling behaviour method and the influence of student self-efficacy,” *J. Furth. High. Educ.*, vol. 42, no. 5, pp. 608–622, 2018, doi: 10.1080/0309877X.2017.1302564.

[38] K. M. Mitchell, T. Harrigan, and D. E. McMillan, “Writing self-efficacy in nursing students: The influence of a discipline-specific writing environment,” *Nurs. Open*, vol. 4, pp. 240–250, 2017, doi: 10.1002/nop2.90.

[39] R. Bruning, M. Dempsey, D. F. Kauffman, C. Mckim, and S. Zumbrunn, “Examining dimensions of self-efficacy for writing,” *J. Educ. Psychol.*, vol. 106, no. 1, pp. 25–38, 2013, doi: 10.1037/a0029692.

[40] A. A. Sabti, S. Md Rashid, V. Nimehchisalem, and R. Darmi, “The impact of writing anxiety, writing achievement motivation, and writing self-efficacy on writing performance: A correlational study of Iraqi tertiary EFL learners,” *SAGE Open*, vol. 9, no. 4, pp. 1–13, 2019, doi: 10.1177/2158244019894289.

[41] J. Han and P. Hiver, “Genre-based L2 writing instruction and writing-specific psychological factors: The dynamics of change,” *J. Second Lang. Writ.*, vol. 40, pp. 44–59, 2018, doi: 10.1016/j.jslw.2018.03.001.

[42] Y. Karlen and M. Compagnoni, “Implicit theory of writing ability: Relationship to metacognitive strategy knowledge and strategy use in academic writing,” *Psychol. Learn. Teach.*, vol. 16, no. 1, pp. 47–63, 2017, doi: 10.1177/1475725716682887.

[43] E. Cer, “The Instruction of Writing Strategies: The Effect of the Metacognitive Strategy on the Writing Skills of Pupils in Secondary Education,” *SAGE Open*, vol. 9, no. 2, 2019, doi: 10.1177/2158244019842681.

[44] M. F. Teng, “The role of metacognitive knowledge and regulation in mediating university EFL learners ’ writing performance,” *Innov. Lang. Learn. Teach.*, pp. 1–15, 2019, doi: 10.1080/17501229.2019.1615493.

[45] M. Briesmaster, “Coherence and cohesion in EFL students’ writing production : The impact of a metacognition-based intervention,” *Ikala*, vol. 22, no. 1, pp. 183–202, 2017, doi: 10.17533/udea.ikala.v22n02a02.

[46] D. Escorcia and C. Ros, “What variables interact with metacognitive processes related to writing in university students: The role of demographic and education factors,” *Electron. J. Res. Educ. Psychol.*, vol. 17, no. 49, pp. 639–664, 2019, doi: 10.25115/ejrep.v17i49.2486.

[47] M. M. Aliyu, Y. M. Fung, M. H. Abdullah, and T. B. Hoon, “Developing undergraduates’ awareness of metacognitive knowledge in writing through problem-based learning,” *Int. J. Appl. Linguist. English Lit.*, vol. 5, no. 7, pp. 233–240, 2016, doi: 10.7575/aiac.ijalel.v.5n.7p.233.

[48] K. Hyland, “Learning to Write for Academic Purposes: Specificity and Second Language Writing,” in *Teaching Writing for Academic Purposes to Multilingual Students: Instructional Approaches*, J. Bitchener, N. Storch, and R. Wette, Eds. New York: Routledge, 2017, pp. 21–24.

[49] K. Csizér and G. Tankó, “English majors’ self-regulatory control strategy use in academic writing and its relation to L2 motivation,” *Appl. Linguist.*,

vol. 38, no. 3, pp. 386–404, 2017, doi: 10.1093/applin/amv033.

[50] L. Alhassan and D. Wood, "The effectiveness of focused instruction of formulaic sequences in augmenting L2 learners' academic writing skills: A quantitative research study," *J. English Acad. Purp.*, vol. 17, pp. 51–62, 2015, doi: 10.1016/j.jeap.2015.02.001.

[51] L. Zander, J. Brouwer, E. Jansen, C. Crayen, and B. Hannover, "Academic self-efficacy, growth mindsets, and university students' integration in academic and social support networks," *Learn. Individ. Differ.*, vol. 62, pp. 98–107, 2018, doi: 10.1016/j.lindif.2018.01.012.

[52] E. Rhew, J. S. Piro, P. Goolkasian, and P. Cosentino, "The effects of a growth mindset on self-efficacy and motivation," *Cogent Educ.*, vol. 5, no. 1, pp. 1–16, 2018, doi: 10.1080/2331186X.2018.1492337.

[53] R. W. Hass, J. Katz-Buonincontro, and R. Reiter-Palmon, "Disentangling creative mindsets from creative self-efficacy and creative identity: Do people hold fixed and growth theories of creativity," *Psychol. Aesthetics, Creat. Arts*, vol. 10, no. 4, pp. 436–446, 2016, doi: 10.1037/aca0000081.

[54] A. A. Hayat, K. Shateri, M. Amini, and N. Shokrpour, "Relationships between academic self-efficacy , learning-related emotions , and metacognitive learning strategies with academic performance in medical students : a structural equation model," pp. 1–11, 2020.

[55] O. S. Oyelekan, S. S. Jolayemi, J. E. Upahi, T. Education, and S. Africa, "Cypriot Journal of Educational," vol. 14, no. 2, pp. 208–221, 2019.

[56] D. Akamatsu, M. Nakaya, and R. Koizumi, "behavioral sciences E ff ects of Metacognitive Strategies on the Self-Regulated Learning Process : The Mediating E ff ects of Self-E ffi cacy," 2019.

[57] D. S. Yeager and C. S. Dweck, "Mindsets that promote resilience: when students believe that personal characteristics can be developed," *Educ. Psychol.*, vol. 47, no. 4, pp. 302–314, 2012, doi: 10.1080/00461520.2012.722805.

[58] Y. Luo, "Engineering majors' metacognitive strategy use in EFL writing: A case study within the Web-based environments," *World Trans. Eng. Technol. Educ.*, vol. 15, no. 4, pp. 323–330, 2017.

[59] J. B. Cooper, S. Lee, E. Jeter, and C. L. Bradley, "Psychometric validation of a growth Mindset and Team Communication Tool to measure self-views of growth mindset and team communication skills," *J. Am. Pharm. Assoc.*, vol. 60, no. 6, pp. 818–826, 2020.

[60] Y. Karlen, "The development of a new instrument to assess metacognitive strategy knowledge about academic writing and its relation to self-regulated writing and writing performance," *J. Writ. Res.*, vol. 9, no. 1, pp. 61–86, 2017, doi: 10.17239/jowr-2017.09.01.03.

[61] S. Razi, "Development of a rubric to assess academic writing incorporating plagiarism detectors," *SAGE Open*, pp. 1–13, 2015, doi: 10.1177/2158244015590162.

[62] J. F. Hair Jr, G. T. M. Hult, C. Ringle, and M. Sarstedt, *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications, 2016.

[63] J. F. Hair, J. J. Risher, M. Sarstedt, and C. M. Ringle, "When to use and how to report the results of PLS-SEM," *Eur. Bus. Rev.*, 2019.

[64] R. B. Kline, *Principles and practice of structural equation modeling*. Guilford publications, 2015.

[65] J. Henseler, C. M. Ringle, and M. Sarstedt, "A new criterion for assessing discriminant validity in variance-based structural equation modeling," *J. Acad. Mark. Sci.*, vol. 43, no. 1, pp. 115–135, 2015.

[66] N. Kock, "Advantages of nonlinear over segmentation analyses in path models," *Int. J. e-Collaboration*, vol. 12, no. 4, pp. 1–6, 2016.

[67] J. F. Hair Jr, M. Sarstedt, L. Hopkins, and V. G. Kuppelwieser, "Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research," *Eur. Bus. Rev.*, 2014.

[68] K. K.-K. Wong, "Partial least squares structural equation modeling (PLS-SEM) techniques using SmartPLS," *Mark. Bull.*, vol. 24, no. 1, pp. 1–32, 2013.

[69] K. M. Mitchell, T. Harrigan, T. Stefansson, and H. Setlack, "Exploring self-effifficacy and anxiety in first-year nursing students enrolled in a discipline-specifific scholarly writing course," *Qual. Adv. Nurs. Educ.*, vol. 3, no. 1, pp. 1–23, 2017, doi: 10.17483/2368-6669.1084.

[70] S. Derr and M. T. Morrow, "Effects of a growth mindset of p0ersonality on emerging adults' defender self-efficacy, moral disengagement, and perceived peer defending," *J. Interpers. Violence*, vol. 35, no. 3–4, pp. 542–570, 2020, doi: 10.1177/0886260517713716.

[71] J. L. Burnette *et al.*, "A growth mindset Intervention: Enhancing students' entrepreneurial self-efficacy and career development," *Entrep. Theory Pract.*, vol. 44, no. 5, pp. 878–908, 2020, doi: 10.1177/1042258719864293.

[72] J. U. Buenconsejo and J. Alfonso D. Datu, "Growth and fixed mindsets about talent matter for career development self-efficacy in selected Filipino adolescents," *Child. Youth Serv. Rev.*, vol. 118, pp. 1–6, 2020, doi: 10.1016/j.childyouth.2020.105470.

[73] X. Huang, J. Zhang, and L. Hudson, "Impact of math self-efficacy, math anxiety, and growth mindset on math and science career interest for middle school students: the gender moderating effect," *Eur. J. Psychol. Educ.*, vol. 34, no. 3, pp. 621–640, 2019, doi: 10.1007/s10212-018-0403-z.

[74] T. S. Samuel and J. Warner, "'I can Math!': Reducing Math anxiety and increasing Math self-efficacy using a mindfulness and growth mindset-based intervention in first-year students," *Community Coll. J. Res. Pract.*, vol. 45, no. 3, pp.

205–222, 2021, doi: 10.1080/10668926.2019.1666063.

[75] J. J. Pembridge and K. J. Rodgers, “Examining self-efficacy and growth mindset in an introductory computing course,” in *Proceedings - Frontiers in Education Conference, FIE*, 2019, pp. 1–5, doi: 10.1109/FIE.2018.8658728.

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