

**MANAJEMEN PEMBELAJARAN GURU BERBASIS  
TRANSFORMASI DIGITAL DAN FRAMEWORK  
TPACK TERHADAP KEMAMPUAN LIFE SKILLS  
SISWA SMPN BIREUEN-ACEH**



**DISERTASI**

Diajukan untuk memenuhi salah satu syarat memperoleh gelar Doktor  
Program Studi Administrasi Pendidikan

Oleh:

**MARNITA  
NIM: 2113225**

**PROGRAM STUDI ADMINISTRASI PENDIDIKAN  
FAKULTAS ILMU PENDIDIKAN  
UNIVERSITAS PENDIDIKAN INDONESIA  
2024**

**LEMPAR HAK CIPTA**

**MANAJEMEN PEMBELAJARAN GURU BERBASIS  
TRANSFORMASI DIGITAL DAN FRAMEWORK TPACK  
TERHADAP KEMAMPUAN LIFE SKILLS SISWA  
SMPN BIREUEN-ACEH**

Oleh:

**MARNITA  
2113225**

Sebuah Disertasi yang diajukan untuk memenuhi salah satu syarat  
memperoleh gelar Doktor Pendidikan (Dr.) pada Fakultas Ilmu  
Pendidikan

**@ M A R N I T A 2024  
UNIVERSITAS PENDIDIKAN INDONESIA  
MEI 2024**

Hak Cipta dilindungi undang-undang.

Disertasi ini tidak boleh diperbanyak seluruhnya atau sebagian,  
dengan dicetak ulang, difoto kopi, atau cara lainnya tanpa ijin dari  
penulis

**LEMBAR PENGESAHAN**  
**MARNITA**

**MANAJEMEN PEMBELAJARAN GURU BERBASIS TRANSFORMASI DIGITAL  
DAN FRAMEWORK TPACK TERHADAP KEMAMPUAN LIFE SKILLS SISWA DI  
SMPN BIREUEN-ACEH**

Disetujui Dan Disahkan Oleh Panitia Disertasi:

Promotor,



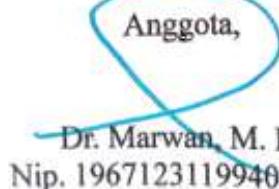
Dr. Diding Nurdin, M. Pd  
Nip. 197108082001121002

Kopromotor,



Dr. Eka Prihatin, M. Pd  
Nip. 196607122006042001

Anggota,



Dr. Marwan, M. Pd  
Nip. 196712311994031062

Mengetahui,  
Dekan Fakultas Ilmu Pendidikan UPI



Dr. Nandang Budiman, M.Si  
Nip. 197102191998021001

## **PERNYATAAN BEBAS PLAGIARISME**

Saya yang bertanda tangan di bawah ini:

Nama : Marnita.

Nim : 2113225

Program Studi : Administrasi Pendidikan

Judul : Manajemen Pembelajaran Guru Berbasis Transformasi Digital Dan Framework TPACK Terhadap Kemampuan Life Skills Siswa SMPN Bireuen-Aceh.

Dengan ini menyatakan bahwa karya tulis ini merupakan hasil kerja saya sendiri.

Saya menjamin bahwa seluruh isi karya ini, baik sebagian maupun keseluruhan, bukan merupakan plagiarisme dari karya orang lain, kecuali pada bagian yang telah dinyatakan dan disebutkan sumbernya dengan jelas.

Jika di kemudian hari ditemukan pelanggaran terhadap etika akademik atau unsur plagiarisme, saya bersedia menerima sanksi sesuai peraturan yang berlaku di Universitas Pendidikan Indonesia.

[Bandung, 11 November 2024]

  
\_\_\_\_\_  
(M A R N I T A)

## ABSTRAK

Pemerintah Indonesia telah mengeluarkan berbagai regulasi yang mendorong terciptanya pembelajaran yang inovatif berbasis teknologi digital di kelas di semua tingkat pendidikan. Regulasi ini bertujuan untuk meningkatkan kualitas pembelajaran, mempersiapkan siswa menghadapi tantangan global, serta mengoptimalkan teknologi sebagai sarana pendukung utama dalam kegiatan belajar-mengajar. Namun demikian dari survey awal di sekolah menengah kabupaten Bireuen-Aceh menunjukkan terdapat beberapa kendala harapan ini dapat berjalan, di antaranya adalah kemampuan guru mengelola pembelajaran (manajemen pembelajaran guru) dengan berbasis transformasi digital dan Framework TPACK belum berjalan dengan baik. Berangkat dari permasalahan ini, maka penelitian ini bertujuan untuk menghasilkan sebuah strategi atau model yang dapat di gunakan oleh guru atau sekolah agar lebih mudah menerapkan dan menguasai pembelajaran berbasis digital. peneliti melakukan penelitian dalam tajuk disertasi dengan menggunakan metode *Mixed Method Exploratory Sequential Design* di UPTD SMP Negeri di Kabupaten Bireuen. Penelitian ini mengajukan 10 pertanyaan penelitian yang terdiri dari 2 pertanyaan terkait kondisi internal dan ekternal, 5 pertanyaan berupa uji hipotesis (uji pengaruh), 2 pertanyaan terkait uji mediasi, dan 1 pertanyaan terkait rancang bangun model transformasi digital dan framework TPACK. Analisis data dilakukan dengan menggunakan Nvivo untuk analisis kualitatif dan PLS-SEM versi-21 untuk analisis kuantitatif. Hasil penelitian menunjukkan bahwa pengujian 3 hipotesis uji pengaruh memiliki nilai *p value* < 0,001 dengan level signifikansi 1% yang berarti bahwa  $H_a$  diterima dan  $H_0$  ditolak (sangat berpengaruh signifikan), 2 pengujian  $H_0$  di terima dan  $H_a$  di tolak, 1 pengujian mediasi yang menunjukkan pengaruh posistif sangat signifikan pada level 1% dengan kriteria *full mediation*, dan terbangunnya satu (1) rancang bangun model transformasi digital dan framework TPACK yang di sebut dengan Model ADAT. Implikasi produk hasil penelitian dapat di gunakan oleh sekolah sebagai sebuah rujukan mempermudah adaptasi guru dari pembelajaran konvensional ke pembelajaran berbasis digital.

**Kata Kunci:** Framework TPACK, Kemampuan Life Skills Siswa, Manajemen Pembelajaran Guru, Transformasi Digital.

## ABSTRACT

The Indonesian government has introduced various regulations to promote innovative, technology-based learning in classrooms across all educational levels. These regulations aim to enhance the quality of education, prepare students for global challenges, and optimize technology as a primary support in teaching and learning activities. However, an initial survey conducted in secondary schools in Bireuen Regency, Aceh, reveals several challenges in realizing these expectations. Among these is that teachers' capability in managing digital-based learning (teacher learning management) through digital transformation and the TPACK framework has not been well-implemented. Addressing this issue, this study aims to develop a strategy or model that teachers or schools can use to facilitate and master digital-based learning more effectively. The research is conducted as part of a dissertation using the Mixed Method Exploratory Sequential Design in UPTD public junior high schools in Bireuen Regency. This study presents ten research questions, including two on internal and external conditions, five for hypothesis testing (impact testing), two related to mediation testing, and one focused on designing a digital transformation model and the TPACK framework. Data analysis is conducted using Nvivo for qualitative analysis and PLS-SEM version 21 for quantitative analysis. The results indicate that three hypothesis impact tests have a  $p$ -value  $< 0.001$  with a 1% significance level, meaning  $H_a$  is accepted and  $H_0$  is rejected (indicating a highly significant impact). Two tests resulted in  $H_0$  being accepted and  $H_a$  being rejected. A mediation test shows a highly significant positive effect at the 1% level, with full mediation criteria. This led to the development of a digital transformation and TPACK framework model called the ADAT Model. The implications of this study's findings can serve as a reference for schools to facilitate teachers' adaptation from conventional to digital-based learning.

**Keywords:** Digital Transformation, Learning Management Teachers, Students' Life Skills Abilities, TPACK Framework

**DAFTAR ISI**

LEMBAR PENGESAHAN.....	iii
PERNYATAAN BEBAS PLAGIARISME .....	iv
KATA PENGANTAR.....	v
ABSTRAK.....	vi
ABSTRACT .....	vii
DAFTAR ISI .....	viii
DAFTAR TABEL.....	xi
DAFTAR GAMBAR.....	xii
DAFTAR LAMPIRAN .....	xiii
BAB 1 PENDAHULUAN.....	1
1.1. Latar Belakang Penelitian .....	1
1.2. Identifikasi Masalah Penelitian .....	8
1.2.1. Layanan Belajar Di Sekolah.....	9
1.2.2. Kompetensi Pedagogik Guru .....	9
1.2.3. Manajemen Pembelajaran Guru .....	12
1.2.4. Motivasi Belajar Siswa .....	13
1.2.5. Life Skills Siswa .....	13
1.3. Rumusan Masalah .....	13
1.4. Tujuan Penelitian.....	15
1.5. Manfaat Penelitian.....	16
1.6. Keterbatasan Studi.....	17
1.7. Ruang Lingkup Disertasi.....	17
1.8. Hipotesis.....	19
BAB II KAJIAN PUSTAKA.....	20
2.1. Administrasi Pendidikan.....	20
2.2. Manajemen Pembelajaran .....	22
2.2.1. Manajemen Guru Dalam Pembelajaran .....	25
2.2.2. Manajemen Peserta Didik .....	27

2.2.3. Perencanaan Pembelajaran.....	28
2.2.4. Pengelolaan Pembelajaran .....	29
2.2.5. Evaluasi Pembelajaran .....	34
2.3. Transformasi Digital.....	38
2.3.1. Pengertian Transformasi digital .....	38
2.3.2. Dukungan Pemerintah & Pemanfaatan Pembelajaran Digital .....	45
2.3.3. Kompetensi Digital Guru .....	48
2.4. Framework TPACK (Technological Pedagogical Content Knowledge). ....	51
2.4.1. Konsep Dasar TPACK .....	51
2.4.2. Penerapan TPACK .....	54
2.5. Keterampilan Life Skills Siswa.....	56
2.6. Penelitian Terdahulu .....	61
2.7. Kerangka Pikir Penelitian.....	77
BAB III METODELOGI PENELITIAN .....	80
3.1. Jenis dan Desain Penelitian 3.1.1 Jenis Penelitian .....	80
3.1.2. Desain Penelitian.....	82
3.1.3. Model CIPP dan Manajemen Pembelajaran Guru .....	83
3.2. Situs Penelitian dan Partisipan Penelitian .....	85
3.2.1. Lokasi Penelitian .....	85
3.2.2. Populasi dan Sampel Penelitian .....	86
3.3. Data Penelitian dan Tehnik Pengumpulan Data .....	87
3.3.1. Variabel Penelitian.....	87
3.3.2. Data Penelitian .....	91
3.3.3. Teknik Pengumpulan Data .....	91
3.4. Pengolahan Data dan Analisis Data.....	98
3.4.1. Teknik Analisis Instrumen.....	102
3.4.2. Teknik Analisis Deskriptif dan Verifikatif.....	103
3.5. Pengujian Hipotesis.....	104
BAB IV HASIL PENELITIAN.....	106
4.1. Profil Sekolah .....	106

4.2. Gambaran Umum Transformasi Digital, Framework TPACK dan Kemampuan Life Skills di sekolah Menengah Kabupaten Bireuen.....	109
4.3. Hasil Penelitian.....	113
4.3.1. Praktik penggunaan digital dalam manajemen pembelajaran guru di SMP Negeri Bireuen .....	113
4.3.2. Layanan Pembelajaran Di SMPN Kabupaten Bireuen .....	120
4.3.3. Analisis SEM-PLS .....	127
4.3.4. Pengujian Hipotesis (Pengaruh Langung & Mediasi).....	133
4.3.5. Rekapitulasi pengujian Hipotesis, Pengaruh Langsung dan Tak Langsung .....	140
BAB V. PEMBAHASAN.....	142
5.1. Praktik penggunaan digital dalam manajemen pembelajaran guru SMP ....	142
5.2. Kondisi Ekternal Tuntutan Proses PBM Berorientasi Teknologi Digital Sebagai Bagian Dari Keterampilan Abad-21. ....	145
5.2.1. Layanan Pembelajaran Sekolah Menengah Pertama (SMP).....	154
5. 3. Pengujian Hipotesis (Uji Pengaruh).....	171
5.4. Rancang Bangun Model ADAT .....	242
BAB VI KESIMPULAN, IMPLIKASI, DAN REKOMENDASI.....	256
6.1. Kesimpulan.....	256
6.2. Implikasi.....	259
6.3. Rekomendasi .....	260
DAFTAR PUSTAKA .....	263

**DAFTAR TABEL**

1.	Tabel 1.1. Survey Awal Rata-Rata Jawaban responden .....	4
2.	Tabel 2.1. Penelitian Yang Relevan.....	59
3.	Tabel 3.1. Populasi dan Sampel.....	84
4.	Tabel 3.2. Rubrik Pertanyaan Tiap Variabel.....	85
5.	Tabel 3.3. Tabel Rubrik Pedoman Wawancara.....	91
6.	Tabel 3.4. Pedoman Observasi.....	92
7.	Tabel 3.5. Pedoman Dokumentasi .....	94
8.	Tabel 3.6. Kisi-kisi Kuisoner .....	95
9.	Tabel 3.7. Kriteria Skala Likert .....	98
10.	Tabel 3.8. Kriteria Angket Observasi Life Skills.....	98
11.	Tabel 3.9. Tabel Koefisein Reability .....	100
12.	Tabel 3.10. Kriteria Analisis Deskriptif.....	102
13.	Tabel 4.1. Profil Akreditasi Sekolah.....	104
14.	Tabel 4.2. Kondisi Internal Kompetensi Guru.....	114
15.	Tabel 4.3. Output Bootstrapping Mean, STDEV, T-Values, P-Values .....	127
16.	Tabel 4.4. Estimasi SEM-PLS Hubungan Antar Variabel.....	129
17.	Tabel 4.5. Hasil Pengujian Mediasi Hipotesis 6 .....	132
18.	Tabel 4.6. Hasil Pengujian Mediasi Hipotesis 7 .....	133
19.	Tabel 4.7. Rekapitulasi Hasil Pengujian Hipotesis .....	135

## **DAFTAR GAMBAR**

1.	Gambar 2.1. Ilustrasi Pola Interkoneksi 4 Pilar Adpen.....	19
2.	Gambar 2.2. Kerangka TPACK .....	51
3.	Gambar 2.3. Kerangka Penerapan TPACK dalam Pembelajaran.....	53
4.	Gambar 2.4. Indikator Kemampuan Life Skills Siswa .....	56
5.	Gambar 2.5. kerangka Pikir Penelitian .....	75
6.	Gambar 3.1. Alur Tahapan <i>Mixed Method</i> .....	79
7.	Gambar 3.2. Desaian Penelitian <i>Mixed Method Sequential Exploratory</i> ....	80
8.	Gambar 3.3. <i>Core Velues</i> Teori CIPP .....	82
9.	Gambar 3.4. Pemetaan Data Yang Di Butuhkan .....	90
10.	Gambar 3.5 Bangun Model Analisis Multivariat.....	99
11.	Gambar 4.1. Denah Lokasi .....	106
12.	Gambar 4.2. Gambaran Umum Penggunaan Digital .....	109
13.	Gambar 4.3. Infrastruktur Pendukung MPG berbasis TD dan TPACK.....	122
14.	Gambar 4.4. Estimasi SEM-PLS.....	128
15.	Gambar 4.5 Konstruk Transformasi Digital .....	165
16.	Gambar 4.6 Konstruk Framework TPACK .....	174
17.	Gambar 4.7 Konstruk Kemampuan Life Skills Siswa .....	195
18.	Gambar 4.8 Konstruk Manajemen Pembelajaran Guru .....	206
19.	Gambar 4.9 Siklus Model ADAT .....	239

**DAFTAR LAMPIRAN**

1. Lampiran 1: Sk Pembimbing.....	284
2. Lampiran 2: Surat Ijin Penelitian.....	287
3. Lampiran 3: Surat Keterangan Telah Melakukan Penelitian.....	289
4. Lampiran 5: Rubrik Wawancara Dan Koisoner.....	294
5. Lampiran 6: Surat Keterangan Intrumen Telah Validasi Expert.....	343
6. Lampiran 7: Templet Pengkodean Data.....	346
7. Lampiran 8: Product Construk (SEM-PLS) .....	367
8. Lampiran 9: Dokumen FGD.....	373
9. Lampiran 10: Dokumentasi Foto (Pengisian Koisoner) .....	436
10. Lampiran 11: Dokumentasi Foto (Sedang Wawancara) .....	444
11. Lampiran 12: Curriculum Vitae Penulis.....	450

## DAFTAR PUSTAKA

- Abrencillo, E. R. (2019). Enriching the Technological Pedagogical Content Knowledge (Tpck) of Science Teachers Through an Enhancement Training Program. *Luz Y. Saber*, 13.
- Adisel, A., & Prananosa, A. G. (2020). Penggunaan Teknologi Informasi dan Komunikasi dalam Sistem Manajemen Pembelajaran pada Masa Pandemi Covid 19. *Journal Of Administration and Educational Management (ALIGNMENT)*, 3(1). <https://doi.org/10.31539/alignment.v3i1.1291>
- Ahmaddien, I., & Syarkani, Y. (2019). Statistika Terapan dengan Sistem SPSS. In *ITB Press*.
- Åkerblad, L., Seppänen-Järvelä, R., & Haapakoski, K. (2021a). Integrative Strategies in Mixed Methods Research. *Journal of Mixed Methods Research*, 15(2). <https://doi.org/10.1177/1558689820957125>
- Åkerblad, L., Seppänen-Järvelä, R., & Haapakoski, K. (2021b). Integrative Strategies in Mixed Methods Research. *Journal of Mixed Methods Research*, 15(2), 152–170. <https://doi.org/10.1177/1558689820957125>
- Akhadiyah, D. D., Ulfatin, N., & Kusumaningrum, D. E. (2019). The Content of Life Skills in the 2013 Curriculum and Learning Management. *Jurnal Administrasi Dan Manajemen Pendidikan*, 2(3).
- Aleman-Saravia, A. C., & Deroncele-Acosta, A. (2021). Technology, Pedagogy and Content (TPACK framework): Systematic Literature Review. *Proceedings - 2021 16th Latin American Conference on Learning Technologies, LACLO 2021*. <https://doi.org/10.1109/LACLO54177.2021.00069>
- Alfianor, A. (2022). Pengelolaan Pembelajaran Maharah Istima' dan Kalam Oleh Himpunan Mahasiswa Prodi PBA STIQ Amuntai. *Al Qalam: Jurnal Ilmiah Keagamaan Dan Kemasyarakatan*, 16(2), 420. <https://doi.org/10.35931/aq.v16i2.869>
- Ally, M. (2019). Competency profile of the digital and online teacher in future education. *International Review of Research in Open and Distance Learning*, 20(2). <https://doi.org/10.19173/irrodl.v20i2.4206>
- Amhag, L., Hellström, L., & Stigmar, M. (2019). Teacher Educators' Use of Digital Tools and Needs for Digital Competence in Higher Education. *Journal of Digital Learning in Teacher Education*, 35(4). <https://doi.org/10.1080/21532974.2019.1646169>
- Andrew, M., Taylorson, J., Langille, D. J., Grange, A., & Williams, N. (2018). Student attitudes towards technology and their preferences for learning tools/devices at two universities in the UAE. *Journal of Information Technology Education: Research*, 17. <https://doi.org/10.28945/4111>
- Angeli, C., & Valanides, N. (2015). Technological pedagogical content knowledge: Exploring, developing, and assessing tpck. In *Technological Pedagogical*

- Content Knowledge: Exploring, Developing, and Assessing TPCK.* <https://doi.org/10.1007/978-1-4899-8080-9>
- Anitasari, R. W., & Utami, R. D. (2022). Implementasi Media Articulate Storyline dalam Pembelajaran sebagai Penunjang Pelaksanaan Kurikulum 2013 di Sekolah Dasar. *Jurnal Basicedu*, 6(4). <https://doi.org/10.31004/basicedu.v6i4.3167>
- Annisa Alfath, Fara Nur Azizah, & Dede Indra Setiabudi. (2022). Pengembangan Kompetensi Guru Dalam Menyongsong Kurikulum Merdeka Belajar. *Jurnal Riset Sosial Humaniora Dan Pendidikan*, 1(2). <https://doi.org/10.56444/soshumdik.v1i2.73>
- Apsorn, A., Sisan, B., & Tungkunanan, P. (2019). Information and communication technology leadership of school administrators in Thailand. *International Journal of Instruction*, 12(2). <https://doi.org/10.29333/iji.2019.12240a>
- Arsanti, M., Zulaeha, I., Subiyantoro, S., & S, N. H. (2021). Tuntutan Kompetensi 4C Abad 21 dalam Pendidikan di Perguruan Tinggi untuk Menghadapi Era Society 5.0. *Prosiding Seminar Nasional Pascasarjana (PROSNAMPAS)*, 4(1).
- Asnawati, A., Kanedi, I., Utami, F. H., Mirna, M., & Asmar, S. (2023). Pemanfaatan Literasi Digital Di Dunia Pendidikan Era 5.0. *Jurnal Dehasen Untuk Negeri*, 2(1). <https://doi.org/10.37676/jdun.v2i1.3489>
- Astini, N. K. S. (2022). Tantangan Implementasi Merdeka Belajar Pada Era New Normal Covid-19 Dan Era Society 5.0. *Lampuhyang*, 13(1). <https://doi.org/10.47730/jurnallampuhyang.v13i1.298>
- Astutik, P., & Hariyati, N. (2021). Peran Guru Dan Strategi Pembelajaran DalamPenerapan Keterampilan Abad 21 Pada PendidikanDasar Dan Menengah. *Inspirasi Manajemen Pendidikan*, 9(3).
- Audrin, C., & Audrin, B. (2022). Key factors in digital literacy in learning and education: a systematic literature review using text mining. *Education and Information Technologies*, 27(6). <https://doi.org/10.1007/s10639-021-10832-5>
- Avidov-Ungar, O., & Shamir-Inbal, T. (2017). ICT coordinators' TPACK-based leadership knowledge in their roles as agents of change. *Journal of Information Technology Education: Research*, 16(1). <https://doi.org/10.28945/3699>
- Baihaq'qi, F., Purnama, A., Bintang, N. D., & Afany, S. (2022). Persepsi Guru Terhadap Evaluasi Pembelajaran. *Edumaspul: Jurnal Pendidikan*, 6(1). <https://doi.org/10.33487/edumaspul.v6i1.2336>
- Bakri, F., & Sunardi, A. K. (2022). The TPACK Implementation in Physics Textbook with Augmented Reality: Enhance the 4C Skills at Mechanics Wave Concept. *Journal of Physics: Conference Series*, 2377(1). <https://doi.org/10.1088/1742-6596/2377/1/012080>
- Baron, R. M., & Kenny, D. A. (1986). The Moderator-Mediator Variable

- Distinction in Social Psychological Research. Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6). <https://doi.org/10.1037/0022-3514.51.6.1173>
- Basantes-Andrade, A., Cabezas-González, M., & Casillas-Martín, S. (2020). Digital competences relationship between gender and generation of university professors. *International Journal on Advanced Science, Engineering and Information Technology*, 1. <https://doi.org/10.18517/ijaseit.10.1.10806>
- Bento, J., Silva, D. A., Meister, S., Bilessimo, S., & Machado, L. R. (2021). Integration Of Technology In Education: Proposal For A Teacher Training Model Inspired By Tpack. *Educação Em Revista*, 37.
- Bogosian, R., & Rousseau, C. (2017). How and why millennials are shaking up organizational cultures. *Rutgers Business Review*, 2(3).
- Boiliu, E. R. (2022). Aplikasi Teori Belajar Sosial Albert Bandura Terhadap PAK Masa Kini. *Jurnal Ilmu Teologi Dan Pendidikan Agama Kristen*, 3(2). <https://doi.org/10.25278/jitpk.v3i2.649>
- Bond, M., Marín, V. I., Dolch, C., Bedenlier, S., & Zawacki-Richter, O. (2018). Digital transformation in German higher education: student and teacher perceptions and usage of digital media. *International Journal of Educational Technology in Higher Education*, 15(1). <https://doi.org/10.1186/s41239-018-0130-1>
- Buchari, A. (2018). Peran Guru Dalam Pengelolaan Pembelajaran. *Jurnal Ilmiah Iqra'*, 12(2). <https://doi.org/10.30984/jii.v12i2.897>
- Capel, S., Leask, M., Younie, S., Hidson, E., & Lawrence, J. (2022). Learning to Teach in the Secondary School. In *Learning to Teach in the Secondary School*. <https://doi.org/10.4324/9781003201267>
- Chaaban, Y., Sawalhi, R., & Du, X. (2022). Exploring teacher leadership for professional learning in response to educational disruption in Qatar. *Professional Development in Education*, 48(3). <https://doi.org/10.1080/19415257.2021.1973070>
- Chaiyama, N., & Kaewpila, N. (2022). The development of life and career skills in 21st century test for undergraduate students. *European Journal of Educational Research*, 11(1), 51–68. <https://doi.org/10.12973/eu-jer.11.1.51>
- Chorosova, O. M., Aetdinova, R. R., Solomonova, G. S., & Protodyakonova, G. Y. (2020). Conceptual approaches to the identification of teachers' digital competence: cognitive modelling. *Education and Self Development*, 15(3). <https://doi.org/10.26907/esd15.3.16>
- Cilliers, E. J., & Cilliers, E. J. (2017). The challenge of teaching generation Z Neo-mercantile planning theory View project Sustainable urban development View project The Challenge Of Teaching Generation Z. *Elizelle Juaneé Cilliers Special Issue*, 3.
- Cronin, L., Allen, J., Ellison, P., Marchant, D., Levy, A., & Harwood, C. (2021). Development and initial validation of the life skills ability scale for higher

- education students. *Studies in Higher Education*, 46(6). <https://doi.org/10.1080/03075079.2019.1672641>
- Daher, W. (2022). Teachers' classroom management for motivating students' creativity. *Middle School Journal*, 53(4). <https://doi.org/10.1080/00940771.2022.2096818>
- Dalena, R., Maryani, S., Dwi Amelia Galuh Primasari, dan, & PGRI Palembang, U. (2019). Kendala Penggunaan It Sebagai Media Belajar Di Smp Negeri 4 Gelumbang. *Prosiding Seminar Nasional Pendidikan Program Pascasarjana Universitas Pgri Palembang*.
- Damayanti, Y., Ratu, F., Ratu, F. P., & Pello, S. C. (2023). Efektifitas Metode SMART Sebagai Upaya Meningkatkan Pemahaman Siswa Mengenai Goal Setting. *Indonesia Berdaya*, 4(4). <https://doi.org/10.47679/ib.2023598>
- de Vries, J. A., Dimosthenous, A., Schildkamp, K., & Visscher, A. J. (2022). The impact on student achievement of an assessment for learning teacher professional development program. *Studies in Educational Evaluation*, 74. <https://doi.org/10.1016/j.stueduc.2022.101184>
- Dewi, K. P., & Purwanti, S. (2019). Integrasi kecakapan abad 21 dalam rencana pelaksanaan pembelajaran sekolah dasar. *Seminar Nasional Hasil Pengabdian Kepada Masyarakat Universitas Ahmad Dahlan, September*.
- Díaz Vera, J. P., Egúez Cevallos, R. C., & Ruiz Ramírez, A. K. (2023). ICT tools as resources for the evaluation of curricular content in undergraduate students. *Revista Iberoamericana de La Educación*, 7(1). <https://doi.org/10.31876/rie.v6i1.242>
- Drugova, E., Zhuravleva, I., Aiusheeva, M., & Grits, D. (2021). Toward a model of learning innovation integration: TPACK-SAMR based analysis of the introduction of a digital learning environment in three Russian universities. *Education and Information Technologies*, 26(4). <https://doi.org/10.1007/s10639-021-10514-2>
- Edwin, W., & Brown, G. W. (1979). Essential of educational Evaluation. *New York*, 27.
- El-Sofany, H. F., & El-Haggar, N. (2020). The effectiveness of using mobile learning techniques to improve learning outcomes in higher education. *International Journal of Interactive Mobile Technologies*, 14(8). <https://doi.org/10.3991/IJIM.V14I08.13125>
- Elitasari, H. T. (2022). Kontribusi Guru dalam Meningkatkan Kualitas Pendidikan Abad 21. *Jurnal Basicedu*, 6(6). <https://doi.org/10.31004/basicedu.v6i6.4120>
- Esteve-Mon, F. M., Llopis, M. A., & Adell-Segura, J. (2020). Digital competence and computational thinking of student teachers. *International Journal of Emerging Technologies in Learning*, 15(2). <https://doi.org/10.3991/ijet.v15i02.11588>
- Evans, J. A. (2016). Student Self-Directed, Interest-Driven Digital Learning: An Investigation into the Characteristics and Motivations of Free Agent Learners.

- ProQuest Dissertations and Theses.*
- Evens, M., Larmuseau, C., Dewaele, K., Van Craesbeek, L., Elen, J., & Depaepe, F. (2017). The Effects of a Systematically Designed Online Learning Environment on Preservice Teachers' Professional Knowledge. *Journal of Digital Learning in Teacher Education*, 33(3). <https://doi.org/10.1080/21532974.2017.1314779>
- Fakhri. (2021). Metode Penelitian Purposive Sampling. 2021.
- Fernández-Gutiérrez, M., Gimenez, G., & Calero, J. (2020). Is the use of ICT in education leading to higher student outcomes? Analysis from the Spanish Autonomous Communities. *Computers and Education*, 157, 103969. <https://doi.org/10.1016/j.compedu.2020.103969>
- Friantona Nasution, M., & Darwis, U. (2022). Pengembangan Media Pembelajaran Berbasis Komputer Menggunakan Articulate Storyline 3 Pada Siswa Kelas IV Di SD Negeri 068074 Medan Denai. *Edu Global : Jurnal Penelitian Pendidikan*, 01(01).
- Gemnafle, M., & Batlolona, J. R. (2021). Manajemen Pembelajaran. *JURNAL PENDIDIKAN PROFESI GURU INDONESIA (JPPGI)*, 1(1), 28–42. <https://doi.org/10.30598/jppgivollissue1page28-42>
- Gerón-Piñón, G., & Solana-González, P. (2022). Digital Transformation in Higher Education Institutions. In *Higher Education* (pp. 13–38). CRC Press. <https://doi.org/10.1201/9781003021230-2>
- Ghozali, I. (2011). Model Persamaan Stuktural Konsep Aplikasi Dengan Program AMOS 22.0. *Semarang: Penerbit Universitas Diponegoro*.
- Ghozali, I. (2015). Partial Least Squares Konsep, Teknik dan Aplikasi Menggunakan Program SmartPLS 3.0 Untuk Penelitian Empiris edisi 2. *Semarang: Badan Penerbit Universitas Diponegoro*.
- Grabowski, B. (2016). “P < 0.05” Might Not Mean What You Think: American Statistical Association Clarifies P Values. In *Journal of the National Cancer Institute* (Vol. 108, Issue 8). <https://doi.org/10.1093/jnci/djw194>
- Guggemos, J., & Seufert, S. (2021). Teaching with and teaching about technology – Evidence for professional development of in-service teachers. *Computers in Human Behavior*, 115. <https://doi.org/10.1016/j.chb.2020.106613>
- Guillén-Gámez, F. D., Lugones, A., Mayorga-Fernández, M. J., & Wang, S. (2019). ICT use by pre-service foreign languages teachers according to gender, age and motivation. *Cogent Education*, 6(1). <https://doi.org/10.1080/2331186X.2019.1574693>
- Hafidulloh, Sofiah Nur Iradawaty, SE., M. M., & Dr. Mochamad Mochkлас, S.Si., M. . (2021). Manajemen Guru : Meningkatkan Disiplin dan Kinerja Guru. In *Bintang Pustaka Madani* (Vol. 1, Issue 1).
- Hafzah, N., Puri Amalia, K., Lestari, E., Annisa, N., Adiatmi, U., & Saifuddin, M. F. (2020). Meta-Analisis Efektivitas Penggunaan Media Pembelajaran Digital Dalam Peningkatan Hasil dan Minat Belajar Biologi Peserta Didik di Era

- Revolusi Industri 4.0. *BIODIK*, 6(4). <https://doi.org/10.22437/bio.v6i4.8958>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (eighth edition). In *TrAC Trends in Analytical Chemistry* (Vol. 10, Issue 7).
- Halim, M. N. (2020). Implementasi sistem informasi manajemen berbasis Information and Communication Technology (ICT) dalam meningkatkan efektifitas administrasi di SMP Brawijaya Smart School. In *Universitas Islam Negeri Maulana Malik Ibrahim*.
- Hanafi, I., & Sumitro, E. A. (2020). Perkembangan Kognitif Menurut Jean Piaget Dan Implikasinya Dalam Pembelajaran. *Alpen: Jurnal Pendidikan Dasar*, 3(2). <https://doi.org/10.24929/alpen.v3i2.30>
- Hanafi, M. S., & Setiyani, H. (2021). The Role of Teachers' Competence to Achieve Effective Learning Management in Primary Schools. *Ilkogretim Online*, 20(1).
- Hanik, E. U., Puspitasari, D., Safitri, E., Firdaus, H. R., Pratiwi, M., & Inayah, R. N. (2022). Integrasi Pendekatan TPACK (Technological, Pedagogical, Content Knowledge) Guru Sekolah Dasar SIKL dalam Melaksanakan Pembelajaran Era Digital. *JEID: Journal of Educational Integration and Development*, 2(1). <https://doi.org/10.55868/jeid.v2i1.97>
- Harishree, C., & Mekala, S. (2020). Need for 21st century skills education for teachers. *Roots International Journal of Multidisciplinary Researches*, 7(1).
- Harits, M., Sujadi, I., & Slamet, I. (2019). Technological, pedagogical, and content knowledge math teachers: To develop 21st century skills students. *Journal of Physics: Conference Series*, 1321(3). <https://doi.org/10.1088/1742-6596/1321/3/032011>
- Hatimah, H., & Nurochmah, A. (2020). Peran Kepala Sekolah Dalam Pengembangan Keprofesian Berkelanjutan (PKB) Kepada Guru Di SMA Negeri 4 Pangkep. *Jurnal Administrasi, Kebijakan, Dan Kepemimpinan Pendidikan (JAK2P)*, 1(2). <https://doi.org/10.26858/jak2p.v1i2.10168>
- Hayati Rahayu, A., Widodo, A., Syaefudin Sa, U., Sumedang, U., & Anggrek Situ, J. (2022). Analisis TPACK Mahasiswa PGSD UNSAP Sumedang. *Journal of Elementary Education*, 05(01).
- Hadiansah, D., & Surjono, H. (2020). Hybrid Learning Development to Improve Teacher Learning Management. *JKTP: Jurnal Kajian Teknologi Pendidikan*, 3(1). <https://doi.org/10.17977/um038v3i12019p001>
- Herring, M. C., Koehler, M. J., & Mishra, P. (2016). Handbook of technological pedagogical content knowledge (TPACK) for educators: Second edition. In *Handbook of Technological Pedagogical Content Knowledge (TPACK) for Educators: Second Edition*. <https://doi.org/10.4324/9781315771328>
- Hung, L. Y., Wang, S. M., & Yeh, T. K. (2023). Kolb's experiential learning theory and marine debris education: Effects of different stages on learning. *Marine Pollution Bulletin*, 191. <https://doi.org/10.1016/j.marpolbul.2023.114933>

- Huy, D. T. N., Hang, N. T., Thang, T. D., Thuy, P. T., & Thuy, V. X. (2021). Virtual Reality Technology and Simulation Technology to Development of Smart Travelling in the Time of Industrial Revolution 4.0. *Webology*, 18(Special Issue). <https://doi.org/10.14704/WEB/V18SI05/WEB18237>
- Iivari, N., Sharma, S., & Ventä-Olkonen, L. (2020). Digital transformation of everyday life – How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care? *International Journal of Information Management*, 55. <https://doi.org/10.1016/j.ijinfomgt.2020.102183>
- Imam Ghazali. (2016). Aplikasi Analisis Multivariete Dengan Program IBM SPSS 23 (Edisi 8). Cetakan ke VIII. *Penelitian*.
- Indarta, Y., Jalinus, N., Abdullah, R., & Samala, A. D. (2021). 21st Century Skills : TVET dan Tantangan Abad 21. *EDUKATIF : Jurnal Ilmu Pendidikan*, 3(6). <https://doi.org/10.31004/edukatif.v3i6.1458>
- Indrawan, D., & Marvida, T. (2023). Kompetensi Pedagogik Guru dalam Pemanfaatan Model Pembelajaran Simulasi Berbasis TIK. *Educative: Jurnal Ilmiah Pendidikan*, 1(1). <https://doi.org/10.37985/educative.v1i1.6>
- Iskandar, D. (2022). Integration of Technological Pedagogical Content Knowledge (TPACK) Learning Methods in The Learning Management System as An Effort to Improve Educator Competence. *JTP - Jurnal Teknologi Pendidikan*, 24(3). <https://doi.org/10.21009/jtp.v24i3.31773>
- Jahari, J., Khoiruddin, H., & Nurjanah, H. (2019). Manajemen Peserta Didik. *Jurnal Isema : Islamic Educational Management*, 3(2). <https://doi.org/10.15575/isema.v3i2.5009>
- Jannah, D. R. N., & Atmojo, I. R. W. (2022). Media Digital dalam Memberdayakan Kemampuan Berpikir Kritis Abad 21 pada Pembelajaran IPA di Sekolah Dasar. *Jurnal Basicedu*, 6(1). <https://doi.org/10.31004/basicedu.v6i1.2124>
- Jannah, M., Prasojo, L. D., & Jerusalem, M. A. (2020). Elementary School Teachers' Perceptions of Digital Technology Based Learning in the 21st Century: Promoting Digital Technology as the Proponent Learning Tools. *Al Ibtida: Jurnal Pendidikan Guru MI*, 7(1). <https://doi.org/10.24235/al.ibtida.snj.v7i1.6088>
- Juanda, A., Shidiq, A. S., & Nasrudin, D. (2021). Teacher learning management: Investigating biology teachers' tpack to conduct learning during the covid-19 outbreak. *Jurnal Pendidikan IPA Indonesia*, 10(1). <https://doi.org/10.15294/jpii.v10i1.26499>
- Juhaeni, J., Safaruddin, S., & Salsabila, Z. P. (2021). Articulate Storyline Sebagai Media Pembelajaran Interaktif Untuk Peserta Didik Madrasah Ibtidaiyah. *AULADUNA: Jurnal Pendidikan Dasar Islam*, 8(2). <https://doi.org/10.24252/auladuna.v8i2a3.2021>
- Jumriani, & Prasetyo, Z. K. (2022). Important Roles of Local Potency Based Science Learning to Support the 21 st Century Learning . *European Journal*

- of Formal Sciences and Engineering*, 5(1).  
<https://doi.org/10.26417/ejef.v1i1.p6-16>
- Kadri, K., Mansor, A. N., & Nor, M. Y. M. (2021). Principal and Teacher Leadership Competencies and 21st Century Teacher Learning and Facilitating Practices: Instrument Development and Demographic Analysis. *Creative Education*, 12(09). <https://doi.org/10.4236/ce.2021.129168>
- Kaminskyi, O. Y., Yereshko, Y. O., & Kyrychenko, S. O. (2018). Digital Transformation Of University Education In Ukraine: Trajectories Of Development In The Conditions Of New Technological And Economic Order. *Information Technologies and Learning Tools*, 64(2). <https://doi.org/10.33407/itlt.v64i2.2083>
- Kansaart, P., Suikraduang, A., & Panya, P. (2018). Using the learning management evaluation model for advancing to life skills of lower secondary students in the 21st century. *AIP Conference Proceedings*, 1923. <https://doi.org/10.1063/1.5019555>
- Kartimi, Gloria, R. Y., & Anugrah, I. R. (2021). Chemistry online distance learning during the covid-19 outbreak: Do tpack and teachers' attitude matter? *Jurnal Pendidikan IPA Indonesia*, 10(2). <https://doi.org/10.15294/jpii.v10i2.28468>
- Kasnowo, K., & Hidayat, M. S. (2022). Penguatan Kompetensi SDM Guru melalui Kurikulum Merdeka di SDN Jatirejoyoso. *Jurnal Pengabdian Pada Masyarakat Indonesia*, 1(3). <https://doi.org/10.55542/jppmi.v1i3.251>
- Katyeudo, K. K., & de Souza, R. A. C. (2022). Digital Transformation towards Education 4.0. *Informatics in Education*, 21(2), 283–309. <https://doi.org/10.15388/infedu.2022.13>
- Kennedy, O. (2022). The negative impacts of student use of online tools during emergency remote teaching and learning on teacher-student relationships. *JALT CALL Publications*, PCP2021(1). <https://doi.org/10.37546/jaltsig.call.pcp2021-04>
- Kergel, D. (2020). Digital Learning in Motion. In *Digital Learning in Motion*. <https://doi.org/10.4324/9780429430145>
- Kihoza, P., Zlotnikova, I., Bada, J., & Kalegele, K. (2016). Classroom ICT integration in Tanzania: Opportunities and challenges from the perspectives of TPACK and SAMR models. *International Journal of Education and Development Using Information and Communication Technology*, 12(1).
- Koehler, M. J., Mishra, P., Akcaoglu, M., & Rosenberg, J. M. (2013). The Technological Pedagogical Content Knowledge Framework for Teachers and Teacher Educators. In N. Bharati & S. Mishra (Eds.), *ICT integrated teacher education Models* (pp. 1–8). Commonwealth Educational Media Center For Asia. [http://cemca.org.in/ckfinder/userfiles/files/ICT teacher education Module 1 Final\\_May 20.pdf](http://cemca.org.in/ckfinder/userfiles/files/ICT teacher education Module 1 Final_May 20.pdf)
- Komariah, A., & Kurniady, D. A. (2022). *Kepemimpinan Pendidikan Abad Ke-21* (Y. S. HAYATI (ed.); CETAKAN KE). PT RajaGrafindo Persada.

- Krotenko, T. Y. (2022). Opportunities and threats of digital transformation management education. *Digital Sociology*, 5(1). <https://doi.org/10.26425/2658-347x-2022-5-1-98-106>
- Ktoridou, D., Doukanari, E., Epaminonda, E., & Efthymiou, L. (2022). Developing Digital Transformation Management Graduate Education. *IEEE Global Engineering Education Conference, EDUCON, 2022-March*. <https://doi.org/10.1109/EDUCON52537.2022.9766592>
- Kuncoro, K. S., Harini, E., & Trimono, D. A. (2022). Bloom's Taxonomy Analyze Category: The Analysis of Students' Analytical Skills Based on Gender. *Unnes Journal of Mathematics Education*, 11(2).
- Kurilova, A., Lysenko, E., Pronkin, N., Mukhin, K., & Syromyatnikov, D. (2019). The impact of strategic outsourcing on the interaction market in entrepreneurship education. *Journal of Entrepreneurship Education*, 22(4).
- Lee, J. P., & Park, K. H. (2019). The Effect of Personal Creativity on Knowledge Sharing and Innovation Behavior: Focused on Retail Workers. *Journal of Distribution Science*, 17(10). <https://doi.org/10.15722/jds.17.10.201910.93>
- Lindholst, A. C., Eriksen, T. B., & Knudsen, S. V. (2023). Danish school pupils' perception of their learning outcomes from participating in computer-based adaptive tests: a pressure for just clicking something? *Scandinavian Journal of Educational Research*. <https://doi.org/10.1080/00313831.2023.2228823>
- Listiyani, P. S., Jeniva, H., & ... (2022). Solusi Permasalahan Guru Untuk Meningkatkan Profesionalitas di Abad 21. *Proseding Didaktis* ....
- Lokmic-Tomkins, Z., Gray, K., Cheshire, L., Parolini, A., Sharp, M., Tarrant, B., Hill, N., Rose, D., Webster, M., Virtue, D., Brignell, A., Waring, R., Broussard, F., Tsirgialos, A., & Meng Cham, K. (2023). Integrating interprofessional electronic medical record teaching in preregistration healthcare degrees: A case study. *International Journal of Medical Informatics*, 169. <https://doi.org/10.1016/j.ijmedinf.2022.104910>
- Lundqvist, D., Wallo, A., Coetzer, A., & Kock, H. (2022). Leadership and Learning at Work: A Systematic Literature Review of Learning-oriented Leadership. *Journal of Leadership and Organizational Studies*. <https://doi.org/10.1177/15480518221133970>
- Machleid, F., Kaczmarczyk, R., Johann, D., Baleiūnas, J., Atienza-Carbonell, B., von Maltzahn, F., & Mosch, L. (2020). Perceptions of digital health education among European Medical Students: Mixed methods survey. *Journal of Medical Internet Research*, 22(8). <https://doi.org/10.2196/19827>
- Makarova, E. A., & Makarova, E. L. (2018). Blending pedagogy and digital technology to transform educational environment. *International Journal of Cognitive Research in Science, Engineering and Education*, 6(2). <https://doi.org/10.5937/ijcrsee1802057M>
- Marmoah, S., Hartono, H., & Sadiman, S. (2019). Implementation of School-Based Management Through a Culture of Literacy in Elementary Schools. *DWIJA*

- CENDEKIA: Jurnal Riset Pedagogik*, 3(2).  
<https://doi.org/10.20961/jdc.v3i2.35349>
- Maslov, I., Nikou, S., & Hansen, P. (2021). Exploring user experience of learning management system. *International Journal of Information and Learning Technology*, 38(4). <https://doi.org/10.1108/IJILT-03-2021-0046>
- Masry-Herzalah, A., & Dor-Haim, P. (2022). Teachers' technological competence and success in online teaching during the COVID-19 crisis: the moderating role of resistance to change. *International Journal of Educational Management*, 36(1). <https://doi.org/10.1108/IJEM-03-2021-0086>
- McBeath, K. C. C., Angermann, C. E., & Cowie, M. R. (2022). Digital Technologies to Support Better Outcome and Experience of Care in Patients with Heart Failure. In *Current Heart Failure Reports* (Vol. 19, Issue 3). <https://doi.org/10.1007/s11897-022-00548-z>
- McComas, W. F. (2014). Technological Pedagogical Content Knowledge. In *The Language of Science Education* (pp. 106–106). SensePublishers. [https://doi.org/10.1007/978-94-6209-497-0\\_95](https://doi.org/10.1007/978-94-6209-497-0_95)
- Meilia, M., & Murdiana, M. (2019). Pendidik Harus Melek Kompetensi Dalam Menghadapi Pendidikan Abad Ke-21. *Al Amin: Jurnal Kajian Ilmu Dan Budaya Islam*, 2(1). <https://doi.org/10.36670/alamin.v2i1.19>
- Meirbekov, A., Maslova, I., & Gallyamova, Z. (2022). Digital education tools for critical thinking development. *Thinking Skills and Creativity*, 44. <https://doi.org/10.1016/j.tsc.2022.101023>
- Mhlanga, D. (2022). Rethinking Education in the Industry 4.0 in Africa: The Effective Management and Leadership of Education Post-COVID-19 Pandemic Towards Digital Transformation. *Journal of Higher Education Theory and Practice*, 22(17). <https://doi.org/10.33423/jhetp.v22i17.5691>
- Mia, Y. G., & Sulastri, S. (2023). Analisis Kompetensi Profesional Guru. *Journal of Practice Learning and Educational Development*, 3(1). <https://doi.org/10.58737/jpled.v3i1.93>
- Mikheev, A., Serkina, Y., & Vasyaev, A. (2021). Current trends in the digital transformation of higher education institutions in Russia. *Education and Information Technologies*, 26(4). <https://doi.org/10.1007/s10639-021-10467-6>
- Mofrad, S., Chee, K. F., Koh, A. E., & Uba, I. (2013). Investigating Life Skills among Young Students in Malaysia. *International Journal of Social Science and Humanity*. <https://doi.org/10.7763/ijssh.2013.v3.229>
- Moonasamy, A. R., & Naidoo, G. M. (2022). Digital Learning: Challenges experienced by South African university students' during the COVID-19 pandemic. *The Independent Journal of Teaching and Learning*, 17(2).
- Moreno, J. R., Montoro, M. A., & Colón, A. M. O. (2019). Changes in teacher training within the TPACK model framework: A systematic review. In *Sustainability (Switzerland)* (Vol. 11, Issue 7).

- <https://doi.org/10.3390/su11071870>
- Mubarok, H. (2021). Implementasi Manajemen Kelas pada Sekolah Dasar dalam Upaya Meningkatkan Motivasi Belajar Peserta Didik di Masa Pandemi Covid-19. *Jurnal Studi Inovasi*, 1(3). <https://doi.org/10.52000/jsi.v1i3.52>
- Muhitasari, R., & Purnami, A. S. (2022). Manajemen Pembelajaran Teaching Factory dalam Mewujudkan Jiwa Kewirausahaan pada Siswa. *Media Manajemen Pendidikan*, 4(2). <https://doi.org/10.30738/mmp.v4i2.8206>
- Mujallid, A. (2021). Instructors' readiness to teach online: A review of tpack standards in online professional development programmes in higher education. In *International Journal of Learning, Teaching and Educational Research* (Vol. 20, Issue 7). <https://doi.org/10.26803/IJLTER.20.7.8>
- Mumpuni, A., Kurniawan, P. Y., Nurbaeti, R. U., Fadillah, A. N., Yuliyanti, M., & Indriyani, N. (2021). Implementation of the school literacy movement during the covid-19 pandemic. *Premiere Educandum : Jurnal Pendidikan Dasar Dan Pembelajaran*, 11(1), 75. <https://doi.org/10.25273/pe.v11i1.7928>
- Muntu, D. F., Yuliana, O. Y., & Tarigan, Z. J. H. (2023). The Influence of Digital Literacy on Learning Effectiveness Through Classroom Management. *Petra International Journal of Business Studies*, 6(1). <https://doi.org/10.9744/petrajbs.6.1.42-52>
- Mustari, M. (2023). Peran Kepala Sekolah dalam Meningkatkan Mutu Pendidikan Melalui Gerakan Literasi dan Numerasi. *Socio Politica : Jurnal Ilmiah Jurusan Sosiologi*, 12(2). <https://doi.org/10.15575/socio-politica.v12i2.22342>
- Muthmainnah, R., & Nurkamilah, S. (2022). Biology Teachers' Tpack Self-Efficacy In Practical Work During Distance Learning. *Lentera Pendidikan : Jurnal Ilmu Tarbiyah Dan Keguruan*, 25(1). <https://doi.org/10.24252/lp.2022v25n1i14>
- Nair, P. K., & Fahimirad, M. (2019). A qualitative research study on the importance of life skills on undergraduate students' personal and social competencies. *International Journal of Higher Education*, 8(5). <https://doi.org/10.5430/ijhe.v8n5p71>
- Neny Sulviana, Happy Fitria, & Achmad Wahid. (2021). Manajemen Guru Dalam Meningkatkan Mutu Pembelajaran. *Jambura Journal of Educational Management*, 15–31. <https://doi.org/10.37411/jjem.v2i1.624>
- Nihayah, H., Mahbubah, N. R., & Habibullah, M. R. (2022). Pemanfaatkan Media Sosial Oleh Guru Pai Sebagai Sarana Pembelajaran Di Era 4.0. *AL-AUFA: Jurnal Pendidikan Dan Kajian Keislaman*, 3(2). <https://doi.org/10.32665/alaufa.v3i2.1203>
- Nikmawati, N., Bintoro, H. S., & Santoso, S. (2021). Dampak Penggunaan Gadget terhadap Hasil Belajar dan Minat Belajar Siswa Sekolah Dasar. *Jurnal Edutech Undiksha*, 9(2). <https://doi.org/10.23887/jeu.v9i2.38975>
- Nilsson, P. (2022). From PCK to TPACK - Supporting student teachers' reflections and use of digital technologies in science teaching. *Research in Science and*

- Technological Education.* <https://doi.org/10.1080/02635143.2022.2131759>
- Ning, Y., Zhou, Y., Wijaya, T. T., & Chen, J. (2022). Teacher Education Interventions on Teacher TPACK: A Meta-Analysis Study. In *Sustainability (Switzerland)* (Vol. 14, Issue 18). <https://doi.org/10.3390/su141811791>
- Nisak, K. (2022). Implementasi Manajemen Peserta Didik Dalam Meningkatkan Prestasi Akademik Siswa Di Man 3 Jombang. *Ulul Amri: Jurnal Manajemen Pendidikan Islam*, 1(2). <https://doi.org/10.18860/uajmp.v1i2.1117>
- Nithitakkharanon, P., & Nuangchalerm, P. (2022). Enhancing pre-service teachers in learning management competency by TPACK framework study and professional requirement. *International Journal of Evaluation and Research in Education*, 11(3). <https://doi.org/10.11591/ijere.v11i3.22181>
- Novita, N., Marhami, M., Sakdiah, H., & Muliani, M. (2021). Pengembangan Kompetensi Literasi Digital Pada Guru Untuk Optimalisasi Pembelajaran Jarak Jauh (PJJ). *MATAPPA: Jurnal Pengabdian Kepada Masyarakat*, 4(1).
- Nurdin, D. (2021). Manajemen Mutu Sekolah - Teori, Konsep dan Implementasi. In Wildan (Ed.), *Pendidikan* (kesatu, p. 236). Refika.
- Okada, Y., & Matsuda, T. (2019). Development of a Social Skills Education Game for Elementary School Students. *Simulation and Gaming*, 50(5). <https://doi.org/10.1177/1046878119880228>
- Oktariani, O., Febliza, A., & Fauziah, N. (2020). Keterampilan Berpikir Kritis Calon Guru Kimia sebagai Kesiapan Menghadapi Revolusi Industri 4.0. *Journal of Natural Science and Integration*, 3(2). <https://doi.org/10.24014/jnsi.v3i2.8791>
- ÖZBEY, S., & KÖYCEĞİZ, M. (2020). A Study on the Effect of the Social Skill Education on the Academic Self Respect and Problem Solving Skills of the Pre-School Children. *International E-Journal of Educational Studies*, 4(8). <https://doi.org/10.31458/iejes.727590>
- Pacheco, G., Espinoza, M. I., Cabrera-Arias, S., & Cabrera-Tenecela, P. (2021). Lecturers' aptitudes, attitudes and professional development in higher education at University of Cuenca. *European Journal of Educational Research*, 10(2). <https://doi.org/10.12973/EU-JER.10.2.553>
- Paiwithayasiritham, C., & Yanprechaset, Y. (2023). Life and career skills of student teachers in Thailand: A factor analysis. *Kasetsart Journal of Social Sciences*, 44(1). <https://doi.org/10.34044/j.kjss.2023.44.1.20>
- Papagiannidis, S., Harris, J., & Morton, D. (2020). WHO led the digital transformation of your company? A reflection of IT related challenges during the pandemic. *International Journal of Information Management*, 55. <https://doi.org/10.1016/j.ijinfomgt.2020.102166>
- Pata, K., Tammets, K., Väljataga, T., Kori, K., Laanpere, M., & Rõbtsenkov, R. (2021). The Patterns of School Improvement in Digitally Innovative Schools. *Technology, Knowledge and Learning*. <https://doi.org/10.1007/s10758-021-09514-5>

- Polly, D., Martin, F., & Byker, E. (2023). Examining Pre-Service and In-Service Teachers' Perceptions of Their Readiness to Use Digital Technologies for Teaching and Learning. *Computers in the Schools*, 40(1). <https://doi.org/10.1080/07380569.2022.2121107>
- Potocky, M. (2021). The Role of Digital Skills in Refugee Integration: A State-of-the-Art Review. *International Journal of Information, Diversity and Inclusion*, 5(5). <https://doi.org/10.33137/ijidi.v5i5.37514>
- Pozo-Sánchez, S., López-Belmonte, J., Rodríguez-García, A.-M., & López-Núñez, J.-A. (2020). Teachers' digital competence in using and analytically managing information in flipped learning ( Competencia digital docente para el uso y gestión analítica informacional del aprendizaje invertido ). *Culture and Education*, 32(2). <https://doi.org/10.1080/11356405.2020.1741876>
- Purnomo, A. R., Yulianto, B., Mahdiannur, M. A., & Subekti, H. (2023). Embedding Sustainable Development Goals to Support Curriculum Merdeka Using Projects in Biotechnology. *International Journal of Learning, Teaching and Educational Research*, 22(1). <https://doi.org/10.26803/ijlter.22.1.23>
- Puspitasari, V., Rufi'i, & Walujo, D. A. (2020). Development of Learning Tools with a Differentiation Model Using Book Creator for BIPA Learning in Classes with Diverse Abilities. *Jurnal Education and Development Institut*, 8(4).
- Putra, A. K., Sumarmi, S., Handoyo, B., Purwanto, P., & Islam, M. N. (2021). Pengembangan virtual field trips berbasis Geospatial Technology: Peningkatan kompetensi TPACK guru melalui GeoEdu Workshop. *Jurnal Integrasi Dan Harmoni Inovatif Ilmu-Ilmu Sosial (JIHI3S)*, 1(12). <https://doi.org/10.17977/um063v1i12p1354-1363>
- Putri, F. A., Insani, G. N., Arifin, M. H., & Wahyuningsih, Y. (2022). Pengaruh Kemajuan Teknologi terhadap Karakter Peduli Sosial Siswa Sekolah Dasar. *Jurnal Pendidikan Tambusai*, 6(1).
- Rabinovich, P. D., Zavedenskiy, K. E., Kushnir, M. E., Khramov, Y. E., & Melik-Parsadanov, A. R. (2020). Digital transformation of education: From changing funds to developing activities. *Informatics and Education*, 5. <https://doi.org/10.32517/0234-0453-2020-35-5-4-14>
- Rahayu, A. D., & Haq, M. S. (2021). Sarana dan Prasarana Dalam Mendukung Pembelajaran Daring Pada Masa Pandemi Covid-19. *Jurnal Inspirasi Manajemen Pendidikan*, 09(1).
- Rahiem, M. D. H. (2020). Technological barriers and challenges in the use of ICT during the COVID-19 emergency remote learning. *Universal Journal of Educational Research*, 8(11B). <https://doi.org/10.13189/ujer.2020.082248>
- Rahman, A., Dzunur'aini, R., & Nur'aini, I. (2022). Knowledge Management as an Effort to Develop Learning Organizations in Islamic Educational Institutions. *Nidhomul Haq : Jurnal Manajemen Pendidikan Islam*, 7(1). <https://doi.org/10.31538/ndh.v7i1.2065>

- Rahyasih, Y., Hartini, N., Indonesia, U. P., Barat, J., Barat, J., Kelas, P. T., Berkelanjutan, P. K., & Ilmiah, P. (2020). Pengembangan Keprofesian Berkelanjutan : Sebuah Analisis Kebutuhan Pelatihan Karya Tulis Ilmiah bagi Guru Sustainability Professional Development : A Scientific Paper Training Need Analysis for Teachers. *Jurnal Penelitian Pendidikan*, 20(April).
- Ramos, G., & Schleicher, A. (2018). The OECD PISA Global Competence Framework: Preparing our Youth for an Inclusive and Sustainable World. *Oecd*.
- Ramsden, P. (2003). Learning to Teach in Higher Education, 2nd Edition. In *Learning to Teach in Higher Education, 2nd Edition*. <https://doi.org/10.4324/9780203507711>
- Reddy, P., Chaudhary, K., & Hussein, S. (2023). A digital literacy model to narrow the digital literacy skills gap. *Heliyon*, 9(4). <https://doi.org/10.1016/j.heliyon.2023.e14878>
- Refiani, D. A., Muslihah, E., & Bachtiar, M. (2022). Manajemen Pengelolaan Pendidikan Profesi Guru (Studi Komparasi di Universitas Islam Negeri Sultan Maulana Hasanuddin Banten dan Universitas Sultan Ageng Tirtayasa). *JEMBA*, 2(1).
- Riswandi, Wicaksono, L., Mujiyati, & Oktaria, R. (2020). Implementation of learning organizations to achieve effective schools in the efforts to develop an elementary school education management model. *Universal Journal of Educational Research*, 8(7), 3034–3040. <https://doi.org/10.13189/ujer.2020.080732>
- Rizal, R., Rusdiana, D., Setiawan, W., & Siahaan, P. (2020). Students perception of learning management system supported smartphone: Satisfaction analysis in online physics learning. *Jurnal Pendidikan IPA Indonesia*, 9(4). <https://doi.org/10.15294/jpii.v9i4.25363>
- Rizaldi, D. R., Nurhayati, E., & Fatimah, Z. (2020). The Correlation of Digital Literation and STEM Integration to Improve Indonesian Students' Skills in 21st Century. *International Journal of Asian Education*, 1(2). <https://doi.org/10.46966/ijae.v1i2.36>
- Roza, H. W. (2015). Sistem Pembinaan Profesi Guru: Suatu Pengantar. *Seminar Bulanan, Balai Diklat Keagamaan Padang*.
- Ruloff, M., & Petko, D. (2021). School principals' educational goals and leadership styles for digital transformation: results from case studies in upper secondary schools. *International Journal of Leadership in Education*. <https://doi.org/10.1080/13603124.2021.2014979>
- Rwodzi, C., & Jager, L. De. (2021). Resilient English Teachers' Use of Remote Teaching and Learning Strategies in Gauteng Resource-Constrained Township Secondary Schools. *Perspectives in Education*, 39(2). <https://doi.org/10.18820/2519593X/PIE.V39.I3.6>
- Sadagheyani, H. E., Tatari, F., Raoufian, H., Salimi, P., & Gazerani, A. (2021). The

- effect of multimedia-based education on students' anger management skill. *Educacion Medica*, 22(3). <https://doi.org/10.1016/j.edumed.2020.09.020>
- Saddiq, L. O. Bin. (2020). The role of student activities in the development of life skills among disabled students at king abdulaziz university. *Journal of Educational and Social Research*, 10(1). <https://doi.org/10.36941/jesr-2020-0008>
- Safitri, A., Kabiba, K., Nasir, N., & Nurlina, N. (2020). Manajemen Pembelajaran bagi Anak Usia Dini dalam Meningkatkan Kualitas Pembelajaran. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 5(2). <https://doi.org/10.31004/obsesi.v5i2.811>
- Salleh, M. H., Kadir, S. A., Jamaluddin, R., & Puad, M. H. M. (2022). Factors Influencing TVET Teacher's TPACK Competencies in Peninsular Malaysia. *Journal of Technical Education and Training*, 14(3). <https://doi.org/10.30880/jtet.2022.14.03.010>
- Salmia, & Yusri, A. M. (2021). Peran Guru dalam Pembelajaran Abad 21 di Masa Pandemik Covid-19. *Indonesian Journal of Primary Education*, 5(1).
- Salmiati, S., & Septiawansyah, R. (2019). Peranan Administrasi Pendidikan dalam Meningkatkan Profesionalisme Guru Pendidikan Agama Islam (PAI) pada MTs DDI Cilellang Kabupaten Barru. *Al-Musannif*, 1(1). <https://doi.org/10.56324/al-musannif.v1i1.18>
- Sánchez-Caballé, A., Gisbert-Cervera, M., & Esteve-Mon, F. (2020). The digital competence of university students: A systematic literature review. In *Aloma* (Vol. 38, Issue 1). <https://doi.org/10.51698/aloma.2020.38.1.63-74>
- Sanjaya, W. (2006). Strategi Pembelajaran Berorientasi Sumber Proses Pendidikan. In *Kelebihan Dan Kekurangan Metode Direct Instruction*.
- Santoso, E. B., Murniati, N. A. N., & Wuryandini, E. (2023). Manajemen Pengembangan Keprofesian Berkelanjutan (PKB) untuk Meningkatkan Profesionalisme Guru. *JIIP - Jurnal Ilmiah Ilmu Pendidikan*, 6(2). <https://doi.org/10.54371/jiip.v6i2.1331>
- Saputra, A. (2020). Manajemen Evaluasi Pembelajaran Guru Terhadap Hasil Dan Kualitas Kinerja Guru Pada Sekolah Dasar Negeri 25 Lhoksukon. *Idarah (Jurnal Pendidikan Dan Kependidikan)*, 4(1). <https://doi.org/10.47766/idarah.v4i1.812>
- Saputro, B., Tortop, H. S., Zuhri, M., Mansur, & Saerozi, M. (2021). The effectiveness of the learning management system of saqural learning application on the scientific interpretation learning outcomes. *Jurnal Pendidikan IPA Indonesia*, 10(1). <https://doi.org/10.15294/jpii.v10i1.27677>
- Sari, R. K., & Harjono, N. (2021). Pengembangan Media Pembelajaran Interaktif Berbasis Articulate Storyline Tematik Terhadap Minat Belajar Siswa Kelas 4 SD. *Jurnal Pedagogi Dan Pembelajaran*, 4(1). <https://doi.org/10.23887/jp2.v4i1.33356>
- Sauri, S & Nurdin, D. (2019). *Manajemen Pendidikan Berbasis Nilai* (Rachmi

- (ed.); kesatu). PT Refika Aditama.
- Schmitz, M. L., Antonietti, C., Consoli, T., Cattaneo, A., Gonon, P., & Petko, D. (2023). Transformational leadership for technology integration in schools: Empowering teachers to use technology in a more demanding way. *Computers and Education*, 204. <https://doi.org/10.1016/j.compedu.2023.104880>
- Shek, D. T. L., Lin, L., Ma, C. M. S., Yu, L., Leung, J. T. Y., Wu, F. K. Y., Leung, H., & Dou, D. (2021a). Perceptions of Adolescents, Teachers and Parents of Life Skills Education and Life Skills in High School Students in Hong Kong. *Applied Research in Quality of Life*, 16(5). <https://doi.org/10.1007/s11482-020-09848-9>
- Shek, D. T. L., Lin, L., Ma, C. M. S., Yu, L., Leung, J. T. Y., Wu, F. K. Y., Leung, H., & Dou, D. (2021b). Perceptions of Adolescents, Teachers and Parents of Life Skills Education and Life Skills in High School Students in Hong Kong. *Applied Research in Quality of Life*, 16(5), 1847–1860. <https://doi.org/10.1007/s11482-020-09848-9>
- Sherly, Dharmia, E., & Sihombing, B. H. (2020). Merdeka Belajar: Kajian Literatur. *Konferensi Nasional Pendidikan I*.
- Shultz, K. S., & Adams, G. A. (2012). Aging and work in the 21st century. In *Aging and Work in The 21st Century*. <https://doi.org/10.4324/9780203936948>
- Silalahi, R. Y. B., & Sahara, S. (2022). Upaya Pengembangan SDM Guru PAUD Berbasis Kompetensi Profesional. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(6). <https://doi.org/10.31004/obsesi.v6i6.2691>
- Silviariza, W. Y., Sumarmi, & Handoyo, B. (2021). Improving critical thinking skills of geography students with spatial-problem based learning (SPBL). In *International Journal of Instruction* (Vol. 14, Issue 3). <https://doi.org/10.29333/iji.2021.1438a>
- Singh, R. K., Gupta, M., & Bhandari, M. (2022). Development of 21st-century life skills among students: Teacher TPACK as guideline factor. *Journal of Pharmaceutical Negative Results*, 13. <https://doi.org/10.47750/pnr.2022.13.S06.267>
- Şışman, C., & Bahadır, E. (2021). The effects of student led conferences on the improvement of 21st century career and life skills. In *International Journal of Learning, Teaching and Educational Research* (Vol. 20, Issue 4). <https://doi.org/10.26803/ijlter.20.4.9>
- Sjoer, E., & Meirink, J. (2016). Understanding the complexity of teacher interaction in a teacher professional learning community. *European Journal of Teacher Education*, 39(1). <https://doi.org/10.1080/02619768.2014.994058>
- Skinner, J., Edwards, A., & Smith, A. C. T. (2020). Establishing reliability and validity in qualitative inquiry. In *Qualitative Research in Sport Management*. <https://doi.org/10.4324/9780367854249-4>
- Sofyan, A., & Murdianingsih, S. (2022). Quantum Learning pada Pendidikan Anak Usia Dini Studi atas Buku Edutainment Pendidikan Anak Usia Dini. *Edusifa*:

- Jurnal Pendidikan Islam*, 7(1). <https://doi.org/10.56146/edusifa.v7i1.40>
- Soncin, M., & Arnaboldi, M. (2022). Intrapreneurship in Higher Education: The Digital Learning Challenge. *International Journal of Public Administration*, 45(2). <https://doi.org/10.1080/01900692.2021.2011919>
- Srisawat, S., & Wannapiroon, P. (2022). The Development of Virtual Professional Learning Community Platform with Experiential Design Thinking Process to Enhance Digital Teacher Competency. *International Journal of Information and Education Technology*, 12(12). <https://doi.org/10.18178/ijiet.2022.12.12.1753>
- Stavrou, T. E., & Koutsolini, M. (2016). Differentiation of Teaching and Learning: The Teachers' Perspective. *Universal Journal of Educational Research*, 4(11). <https://doi.org/10.13189/ujer.2016.041111>
- Stehle, S. M., & Peters-Burton, E. E. (2019). Developing student 21st Century skills in selected exemplary inclusive STEM high schools. *International Journal of STEM Education*, 6(1). <https://doi.org/10.1186/s40594-019-0192-1>
- Štemberger, T., & Konrad, S. Č. (2021). Attitudes Towards Using Digital Technologies in Education as an Important Factor in Developing Digital Competence: The Case of Slovenian Student Teachers. *International Journal of Emerging Technologies in Learning*, 16(4). <https://doi.org/10.3991/ijet.v16i14.22649>
- Stufflebeam, D. L. (2003). The CIPP Model for Evaluation. In *International Handbook of Educational Evaluation*. [https://doi.org/10.1007/978-94-010-0309-4\\_4](https://doi.org/10.1007/978-94-010-0309-4_4)
- Sugiarti, D. Y. (2019). Pengelolaan profesionalisme guru. *Genta Mulia*, X(1).
- Suherdi, D., Rezky, S. F., Apdilah, D., Sinuraya, J., Sahputra, A., Syahputra, D., & Wahyuni, D. (2021). Peran Literasi Digital Di Masa Pandemik. In *CATTLEYA DARMAYA FORTUNA* (Vol. 123).
- Sumarni, S., Darhim, D., & Fatimah, S. (2021). Kemampuan Pemecahan Masalah Mahasiswa Calon Guru Matematika Sekolah Menengah Berdasarkan Tahapan Polya. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, 10(3). <https://doi.org/10.24127/ajpm.v10i3.3717>
- Sunarto, T., Wasliman, I., Warta, W., Tejawiani, I., Pascasarjana universitas islam nusantara, S., & Author, C. (2022). Life Skill Learning Management In Improving Entrepreneurship Student At SMK Negeri South Tangerang. *International Journal of Educational Research & Social Sciences*, 3(6).
- Suryani, L., Tute, K. J., Nduru, M. P., & Pendy, A. (2022). Analisis Implementasi Pelaksanaan Pembelajaran Tatap Muka Terbatas di Masa New Normal. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(3). <https://doi.org/10.31004/obsesi.v6i3.1915>
- Susilawati, E., Sarifudin, S., & Muslim, S. (2021). Internalisasi Nilai Pancasila Dalam Pembelajaran Melalui Penerapan Profil Pelajar Pancasila Berbantuan Platform Merdeka Mengajar. *Jurnal Teknодик*.

- <https://doi.org/10.32550/teknodik.v25i2.897>
- Suwandayani, B. I., Soenaryo, S. F., & Susanti, R. D. (2019). Perencanaan Pembelajaran Creative Learning Dalam Mata Kuliah Profesi Keguruan. *Lentera: Jurnal Pendidikan*, 14(2). <https://doi.org/10.33654/jpl.v14i2.844>
- Syefrinando, B., Sukarno, Ariawijaya, M., & Nasukha, A. (2022). the Effect of Digital Literacy Capabilities and Self-Regulation on the Student'S Creativity in Online Physics Teaching. *Jurnal Pendidikan IPA Indonesia*, 11(3), 489–499. <https://doi.org/10.15294/jpii.v11i3.31811>
- Tabuenca, B., Greller, W., & Verpoorten, D. (2022). Mind the gap: smoothing the transition to higher education fostering time management skills. *Universal Access in the Information Society*, 21(2), 367–379. <https://doi.org/10.1007/s10209-021-00833-z>
- Taylor, I. A. (2017). A retrospective view of creativity investigation. In *Perspectives in Creativity*. <https://doi.org/10.4324/9781315126265-1>
- Tejedor, S., Cervi, L., Pérez-Escoda, A., & Jumbo, F. T. (2020). Digital literacy and higher education during COVID-19 lockdown: Spain, Italy, and Ecuador. *Publications*, 8(4), 1–17. <https://doi.org/10.3390/publications8040048>
- Tian, T., Zou, N., Jiang, J., & Xu, X. (2017). Application of practical curriculum for college specialty of economic management under TPACK framework: Taking “enterprise operation and decision simulation system” curriculum as an example. *International Journal of Emerging Technologies in Learning*, 12(7). <https://doi.org/10.3991/ijet.v12i07.7223>
- Tiznado-Matzner, G., Bucarey-Arriagada, S., & Pérez, R. L. (2020). Three-dimensional virtual models of 3d-scanned real cadaveric samples used as a complementary educational resource for the study of human anatomy: Undergraduate student's perception of this new technology. *International Journal of Morphology*, 38(6). <https://doi.org/10.4067/S0717-95022020000601686>
- Tsawab, M. C., Khasanah, U., Afrida, N. F., & Maisyanah, M. (2020). Evaluasi Pembelajaran Pendidikan Agama Islam dan Implikasinya Terhadap Motivasi Belajar Peserta Didik di MTs NU Banat Kudus. *Al-Mudarris (Jurnal Ilmiah Pendidikan Islam)*, 3(1). <https://doi.org/10.23971/mdr.v3i1.2127>
- Tuaputty, H.-, Makatita, A., & Bonara, M. (2021). Effect of learning management system on online learning because Covid-19: Study and learning courses students of biology education program, Pattimura University. *BIOEDUPAT: Pattimura Journal of Biology and Learning*, 1(2). <https://doi.org/10.30598/bioedupat.v1.i2.pp57-62>
- Utomo, K., Soegeng, A. Y., Purnamasari, I., & Amaruddin, H. (2021). Pemecahan Masalah Kesulitan Belajar Siswa pada Masa Pandemi Covid19. *MIMBAR PGSD Undiksha*, 9(1). <https://doi.org/10.23887/jjpgsd.v9i1.29923>
- Vaganova, O. I., Odarich, I. N., Rudakova, O. A., Volkova, J. S., & Bulaeva, M. N. (2020). Level differentiation technology in vocational education. *Revista*

- Amazonia Investiga*, 9(28). <https://doi.org/10.34069/ai/2020.28.04.5>
- Vahedi, Z., Zannella, L., & Want, S. C. (2021). Students' use of information and communication technologies in the classroom: Uses, restriction, and integration. *Active Learning in Higher Education*, 22(3). <https://doi.org/10.1177/1469787419861926>
- van Laar, E., van Deursen, A. J. A. M., van Dijk, J. A. G. M., & de Haan, J. (2017). The relation between 21st-century skills and digital skills: A systematic literature review. *Computers in Human Behavior*, 72. <https://doi.org/10.1016/j.chb.2017.03.010>
- van Laar, E., van Deursen, A. J. A. M., van Dijk, J. A. G. M., & de Haan, J. (2018). 21st-century digital skills instrument aimed at working professionals: Conceptual development and empirical validation. *Telematics and Informatics*, 35(8). <https://doi.org/10.1016/j.tele.2018.08.006>
- Vizeshfar, F., Rakhshan, M., Shirazi, F., & Dokooohaki, R. (2022). The effect of time management education on critical care nurses' prioritization: A randomized clinical trial. *Acute and Critical Care*, 37(2). <https://doi.org/10.4266/acc.2021.01123>
- Wargadinata, W., Maimunah, I., Febriani, S. R., & Humaira, L. (2020). Mediated Arabic Language Learning for Higher Education in COVID-19 Situation. *Izdihar : Journal of Arabic Language Teaching, Linguistics, and Literature*, 3(1). <https://doi.org/10.22219/jiz.v3i1.11862>
- Wibowo, N. O., & N.F, S. (2023). Literasi Digital Orang Tua Siswa Sekolah Dasar (Studi Deskriptif Kualitatif pada Orang Tua Siswa Sekolah Dasar di Kota Surabaya dalam Mengontrol Penggunaan Smartphone). *JIIP - Jurnal Ilmiah Ilmu Pendidikan*, 6(7). <https://doi.org/10.54371/jiip.v6i7.2363>
- Windayanti, W., Afnanda, M., Agustina, R., Kase, E. B. S., Safar, M., & Mokodenseho, S. (2023). Problematika Guru Dalam Menerapkan Kurikulum Merdeka. *Journal on Education*, 6(1). <https://doi.org/10.31004/joe.v6i1.3197>
- Wirtz, B. W., Weyerer, J. C., & Heckeroth, J. K. (2022). Digital Disruption And Digital Transformation: A Strategic Integrative FRAMEWORK. In *International Journal of Innovation Management* (Vol. 26, Issue 3). <https://doi.org/10.1142/S1363919622400084>
- Wiyani, N. A., Nurprastika, I., & Sahnan, A. (2020). Aktualisasi Kecerdasan Interpersonal Kepala Sekolah dalam Pengembangan Mutu Pendidikan. *DIDAKTIKA: Jurnal Pendidikan Sekolah Dasar*, 3(2). <https://doi.org/10.21831/didaktika.v3i2.34677>
- Wulandari, S. S., Suratman, B., & Nugraha, J. (2020). Pengembangan Keprofesian Berkelanjutan (PKB) pada Guru SMK Bidang Keahlian Administrasi Perkantoran di Kabupaten Sidoarjo. *Jurnal Pendidikan Edutama*, 7(1). <https://doi.org/10.30734/jpe.v7i1.707>
- Wulandari, S., & Supriyoko, S. (2022). Implementasi Pelaksanaan Program Pengembangan Keprofesian Berkelanjutan (PKB) Guru Sekolah Dasar. *Media*

- Manajemen Pendidikan*, 5(1). <https://doi.org/10.30738/mmp.v5i1.11593>
- Yamin, M. dan M. (2009). Manajemen Pembelajaran Kelas: Strategi Meningkatkan Mutu Pembelajaran. In *Gaung Persada*.
- Yao, J., You, Y., & Zhu, J. (2020). Principal–Teacher Management Communication and Teachers’ Job Performance: The Mediating Role of Psychological Empowerment and Affective Commitment. *Asia-Pacific Education Researcher*, 29(4). <https://doi.org/10.1007/s40299-019-00490-0>
- Ye, P., Liu, L., & Tan, J. (2022). Creative leadership, innovation climate and innovation behaviour: the moderating role of knowledge sharing in management. *European Journal of Innovation Management*, 25(4). <https://doi.org/10.1108/EJIM-05-2020-0199>
- Yin, X., & Chen, Y. (2022). Cyber Risk Recommendation System for Digital Education Management Platforms. *Computational Intelligence and Neuroscience*, 2022. <https://doi.org/10.1155/2022/8548534>
- Zakarneh, B. M., Elkhattat, D., Yousef, E., & Alazab, A. (2021). Utilizing social media networks as learning tools for foreign languages among Arab Youth in UAE. *International Journal of English Language and Literature Studies*, 10(2). <https://doi.org/10.18488/JOURNAL.23.2021.102.132.144>
- Zebua, F. R. S. (2023). Analisis Implementasi Peranan Guru Dalam Administrasi Dan Manajemen Pendidikan. *Jurnal Inovatif Manajemen Pendidikan Islam*, 2(2). <https://doi.org/10.38073/jimpi.v2i2.949>
- Zimmer, W. K., & Matthews, S. D. (2022). A virtual coaching model of professional development to increase teachers’ digital learning competencies. *Teaching and Teacher Education*, 109. <https://doi.org/10.1016/j.tate.2021.103544>
- Zonneveld, M., Patomella, A. H., Asaba, E., & Guidetti, S. (2020). The use of information and communication technology in healthcare to improve participation in everyday life: a scoping review. In *Disability and Rehabilitation* (Vol. 42, Issue 23). <https://doi.org/10.1080/09638288.2019.1592246>