



METODOLOGI PENELITIAN PENDIDIKAN: ADAPTASI MASA PANDEMI

**Yuli Rahmawati
Universitas Negeri Jakarta**

**Program Studi S1 PGSD UNESA
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01. PENDAHULUAN



Darurat dan Situasi tidak normal



Isu-isu Pendidikan

Karakteristik PGSD



Adaptasi Penelitian dan Publikasi



Tantangan dan Peluang



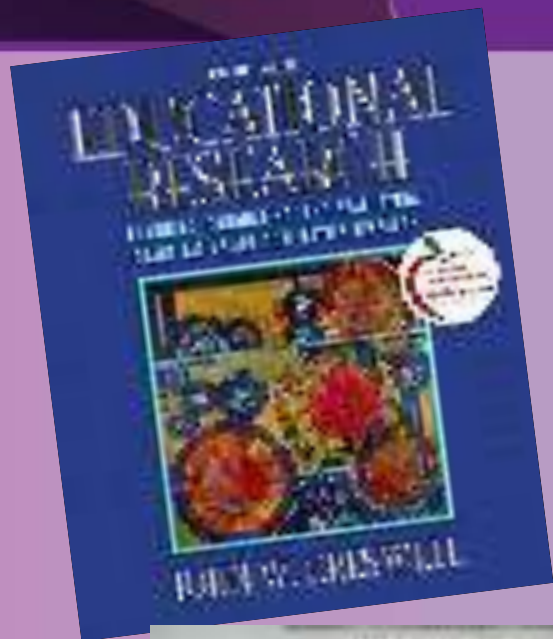
Penelitian?



02. PENELITIAN PENDIDIKAN



Resources





Resources





Terminologi

Paradigma
Penelitian



Metode/Teknik
Pengumpulan Data



Metodologi

Quality Standards/
Keabsahan Data



Perbedaan Terminologi

RESEARCH PARADIGM

- Framework atau cara pandang yang terdiri dari konsep-konsep dasar/key ideas
 - **Positivism, post-positivism, interpretivism, criticalism, postmodernism**

METODOLOGI

- Rancangan garis besar/ overview proses dan tahapan penelitian yang dilakukan untuk mengumpulkan, menganalisa, dan menginterpretasikan data penelitian
 - **Studi kasus, etnografi, action research, grounded theory, dll**

METODE

- Teknik yang dilakukan untuk mengumpulkan data penelitian
 - **Wawancara, Kuisisioner, Tes, Observasi, Reflektif Jurnal**

QUALITY STANDARDS

- *Pengecekan keabsahan data*
- Kriteria untuk menilai dan mengevaluasi penelitian
 - **Validitas, Reliabilitas, Trustworthiness, Authenticity**



Educational Research Paradigm

Positivism **Interpretivism** **Criticalism** **Postmodernism** **Integralism**
1900s.....1980s.....1990s.....2000s.....2010s....



explain law-like
properties
NATURAL SCIENCES

ethics & vision
SOCIOLOGY & POLITICS

system transformation
INTEGRAL PHILOSOPHY

contextual (self)
understanding
ANTHROPOLOGY

reasoning & expressing
THE ARTS

(Taylor, 2009)



Educational Research Paradigm

Paradigm	Epistemology	Metodology	Methods	Quality Standards
KUANTITATIF (istilah yang umum digunakan)				
Positivism Post-positivist	Scientific, Objective, Explanatory	Experiment, Correlation. Survey. Mixed-Methods	Test, Questionnaire, Interview	Validity, Reliability, & Triangulation
KUALITATIF (istilah yang umum digunakan)				
Interpretivism	Constructivist	Case Study, Grounded Theory, Ethnography, Practical Action Research	Interview, Observation, Reflective Journal, Document Analysis	Trustworthiness Authenticity
Criticalism	Subjective	Critical Action research	Interview, Observation, Reflective Journal, Reflections	Praxis Pedagogical thoughtfulness
Postmodernism	Pluralism	Auto/ethnography	Narrative Inquiry Interview Observation	polyvocality, verisimilitude



Primary Education



Social,
emotional,
physical activity
and linguistic
growth



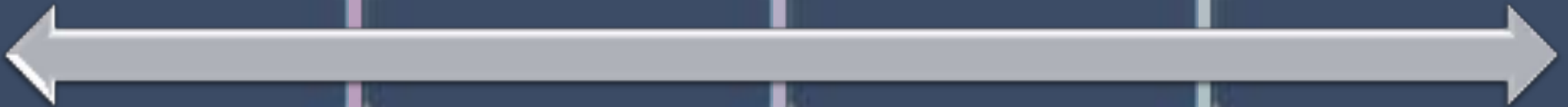
Communication
in expressing
ideas



Creativity and
quick learners



Collaboration





Prinsip Penelitian



Desain dan konsep Penelitian yang benar



Penelitian dalam Pembelajaran



Metode Pembelajaran

Akses



Etika



Sederhana: Benar dan Menarik



Penelitian Pendidikan

Fokus Permasalahan:

- *Online Learning, WFH, Metode Pembelajaran, Proses dan Hasil Belajar*

Tujuan Penelitian

- *Solusi, Minat, dll*

Jenis Penelitian

- *Kuantitatif, Kualitatif, Mixed Methods, RnD, PTK?*

Kondisi Pandemi

- *Beban Akademik & Non Akademik, Akses, Fleksibel, dll*



Tahapan Penelitian

Penentuan Masalah

- Fokus, Kontekstual, Menarik, Mudah

Penentuan Solusi

- Relevansi, Pengalaman, Referensi (Jurnal, Buku, dll), Penelitian Sebelumnya

Penentuan Judul

- Fokus, Menarik, Jelas, Jenis Penelitian

Penentuan Metode Penelitian

- Pertanyaan Penelitian
- Kuantitatif, Kualitatif-PTK

Desain Penelitian

- Rancangan Singkat vs Proposal



Tahapan Penelitian

Penyusunan Langkah Pembelajaran

- *Fokus, Kontekstual, Menarik, Mudah*

Penyusunan Instrumen

- Relevansi, Pengalaman, Referensi (Jurnal, Buku, dll), Penelitian Sebelumnya

Analisis Data

- Kuantitatif vs Kualitatif
- Pertanyaan Penelitian

Publikasi

- Laporan
- Artikel



Implementasi: Mulai Meneliti

Refleksi Kondisi

- Permasalahan dan Solusi, Menarik, Mudah, Akses (online learning & metode)

Tahap Perencanaan

- Judul
- Pertanyaan Penelitian & Rancangan
- Sumber data & Instrumen (tugas, wawancara, kuisisioner, tes), Partisipan (izin)

Tahap Pelaksanaan

- Pengambilan data (pembelajaran dan hasil, atau hasil yang telah ada)
- Teknis (kelas, kondisi, online)

Tahap Akhir

- Analisis (Grafik (jumlah/%), deskripsi/naratif)
- Refleksi Perbaikan
- Laporan/Artikel



03. METODOLOGI PENELITIAN



Klasifikasi Penelitian

• Tujuan

Basic dan Applied

- Action Research, Research and Development,
- & Evaluation Research

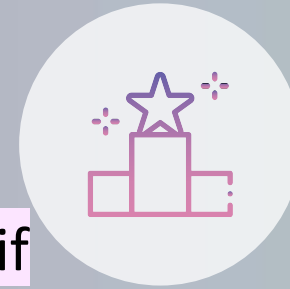
Gay, Mills, Airasian (2012)



• Metodologi

Kuantitatif dan Kualitatif

- Kuantitatif, Kualitatif, Mixed-Methods



Lainnya.....

*Design-Based Research &
Developmental Research*



Ide Penelitian Berbasis *Transformative Learning Values*

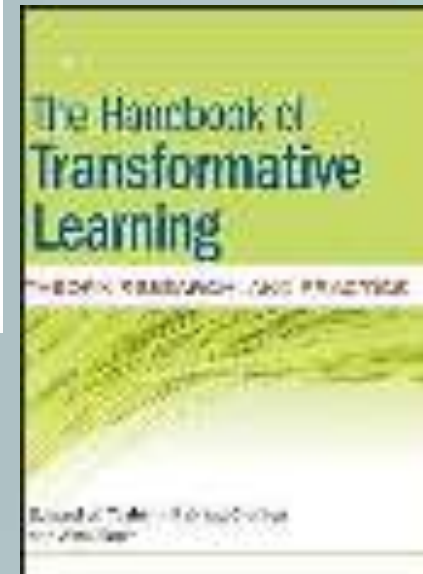




Transformative Learning Values

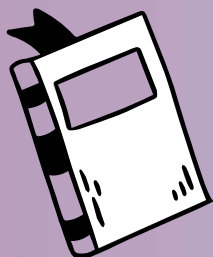


Taylor (2013)



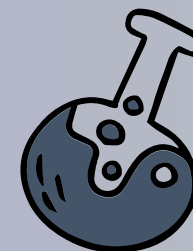


Pembelajaran Inovatif dan Transformatif



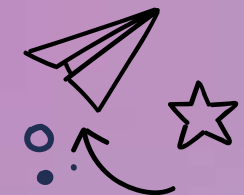
Meaningful

Bermakna, kehidupan sehari-hari,
kontekstual, otentik



Empowering

Peran siswa sebagai generasi masa
depan dan agen perubahan





Tahapan Pembelajaran

1. Value Reflections

Stimulasi nilai melalui foto, gambar video, dll



|

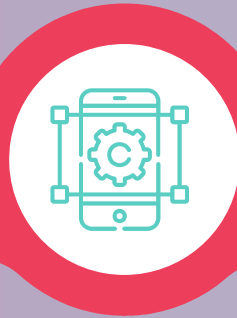


Siswa distimulasi untuk dapat fokus pada masalah dilemma/konflik dan memberikan solusi

2. Problem Solving & Decision Making

3. Concept Integration

Penjelasan topik/materi yang relevan dan fokus



|



4. Project Development

Siswa mengembangkan proyek sebagai solusi masalah

5. Transformation

Pemahaman konsep dan nilai



|





Proyek UNESCO: Learning for Empathy



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Value Knowledge Education (VaKE)

(Kohlberg, 1984; Vygostky, 1978; Patry & Hoffman, 2004)

- UNJ-Labschool
- Pembelajaran Empati
- Implementasi pada 10 mata pelajaran
 - Deskripsi
 - Rancangan Pembelajaran
 - Penutup



Langkah 1: Siapkan Perencanaan dan Aliran Berpikir

Langkah 1.1. Siapkan Aliran Berpikir (Flowchart)

1. Siapkan alirannya, pada setiap alirannya di setiap langkah alirannya, berilah label yang tepat untuk setiap langkah.
2. Buat alirannya, mulailah alirannya dimulai dari alirannya pada setiap langkah alirannya.
3. Alirannya, mulailah alirannya dimulai dari alirannya pada setiap langkah alirannya.
4. Alirannya, mulailah alirannya dimulai dari alirannya pada setiap langkah alirannya.

Langkah 1.2. Siapkan Aliran Berpikir (Flowchart)

1. Siapkan alirannya, pada setiap alirannya di setiap langkah alirannya, berilah label yang tepat untuk setiap langkah.
 2. Buat alirannya, mulailah alirannya dimulai dari alirannya pada setiap langkah alirannya.
- Flowchart adalah diagram yang menunjukkan urutan langkah-langkah dalam menyelesaikan suatu masalah. Flowchart digunakan untuk menggambarkan prosedur, alirannya, dan tugas-tugas dalam menyelesaikan suatu masalah.
- Flowchart adalah diagram yang menunjukkan urutan langkah-langkah dalam menyelesaikan suatu masalah. Flowchart digunakan untuk menggambarkan prosedur, alirannya, dan tugas-tugas dalam menyelesaikan suatu masalah.

1.2.1. Buat alirannya (Flowchart)

Langkah 1	Langkah 2
<p>Langkah 1.1. Siapkan Aliran Berpikir (Flowchart)</p> <p>1. Siapkan alirannya, pada setiap alirannya di setiap langkah alirannya, berilah label yang tepat untuk setiap langkah.</p> <p>2. Buat alirannya, mulailah alirannya dimulai dari alirannya pada setiap langkah alirannya.</p> <p>3. Alirannya, mulailah alirannya dimulai dari alirannya pada setiap langkah alirannya.</p> <p>4. Alirannya, mulailah alirannya dimulai dari alirannya pada setiap langkah alirannya.</p>	<p>Langkah 1.2. Siapkan Aliran Berpikir (Flowchart)</p> <p>1. Siapkan alirannya, pada setiap alirannya di setiap langkah alirannya, berilah label yang tepat untuk setiap langkah.</p> <p>2. Buat alirannya, mulailah alirannya dimulai dari alirannya pada setiap langkah alirannya.</p>

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2. Buat alirannya, mulailah alirannya dimulai dari alirannya pada setiap langkah alirannya.

Flowchart

Flowchart adalah diagram yang menunjukkan urutan langkah-langkah dalam menyelesaikan suatu masalah. Flowchart digunakan untuk menggambarkan prosedur, alirannya, dan tugas-tugas dalam menyelesaikan suatu masalah.

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Langkah 1.4. Siapkan Aliran Berpikir (Flowchart)

1. Siapkan alirannya, pada setiap alirannya di setiap langkah alirannya, berilah label yang tepat untuk setiap langkah.
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Proyek UNESCO: SMP 41 Surabaya





Proyek UNESCO: SMP 41 Surabaya





CONTOH: Cerita Dilema (Studi Kasus) dan STEAM Proyek (Solusi)



DETERGENT WASTEWATER TREATMENT PROJECT

SMA 59 Jakarta

PENGHISAP ASAP



SMA Labschool Cibubur

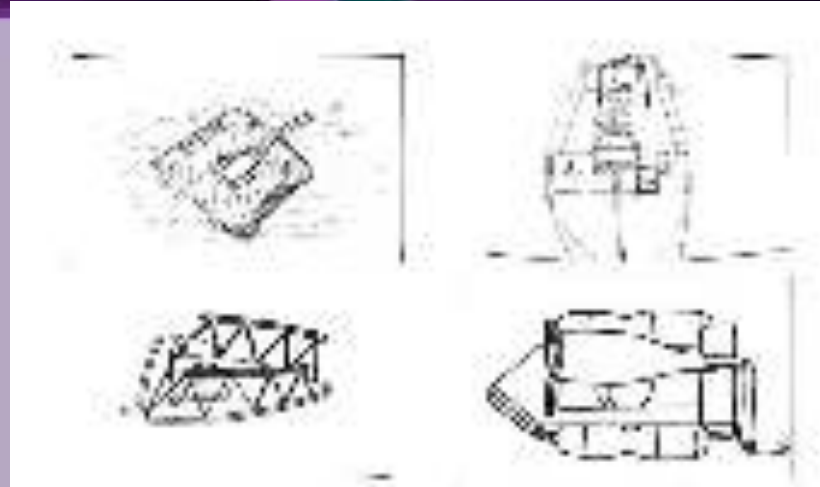
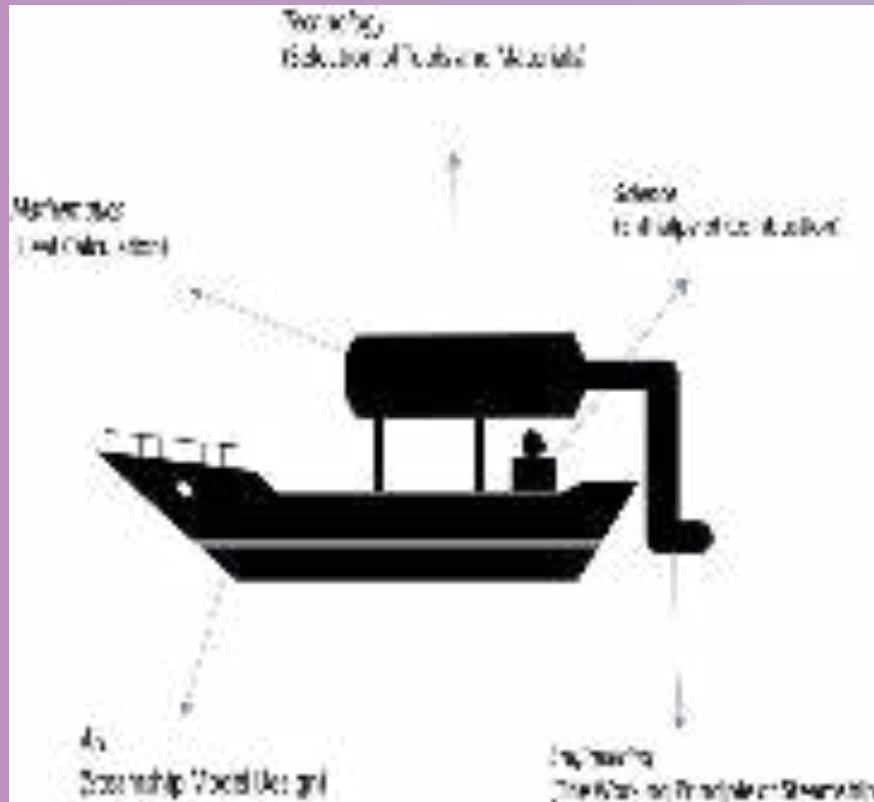
PEMBUATAN PLASTIK BIODEGRADABLE

Biji Nangka	Pati Ubi	Bekatul	Kentang	Nanas
	Pati Singkong	Kulit Pisang	Tepung Maizena	

SMA 4 Tambun Bekasi



CONTOH: Cerita Dilema (Studi Kasus) dan STEAM Proyek (Solusi) SMA 5 Tangerang



Kapal dengan Bahan Bakar
Ramah Lingkungan



CONTOH: Cerita Dilema (Studi Kasus) dan Proyek (Solusi) SMA 4 Tambun Bekasi

Dilemmas Stories

Indonesia menghadapi tantangan sebagai negara terbesar kedua yang berkontribusi terhadap sampah plastik di dunia. Jumlah total sampah Indonesia pada tahun 2019 akan mencapai 68 juta ton sampah, sampah plastik diperkirakan akan mencapai 9,52 juta ton atau 14 persen dari total sampah. Dilemma menceritakan penggunaan plastik dalam kemasan, termasuk penggunaan styrofoam. Dilemma melibatkan aspek lingkungan, ekonomi dalam masyarakat dan keluarga.



Proyek STEAM

Proyek STEAM plastik Biodegradable dikembangkan sebagai solusi dari cerita dilema plastik. Setiap kelompok mencari sumber belajar yang berbeda (internet-jurnal, dll) untuk mengetahui prosedur pembuatan plastic biodegradable. Siswa menemukan penggunaan kulit pisang, singkong, Chitosan (dari limbah shirmp) dll.



Students 'Engagement, 21st Century skills, & Chemistry Literacy



Dilema Polusi dan Alat Absorbansi Asap: SMAK 6 Penabur



Alat Absorbansi Asap



Diskusi Kelompok

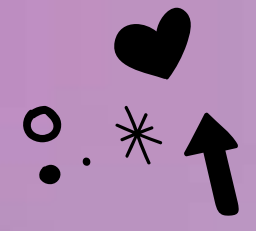


Desain Alat



Monitoring Kemajuan Proyek

Siswa





Dilema Bahan Bakar dan Proyek Energi Alternatif SMA 106 Jakarta



Value Reflection



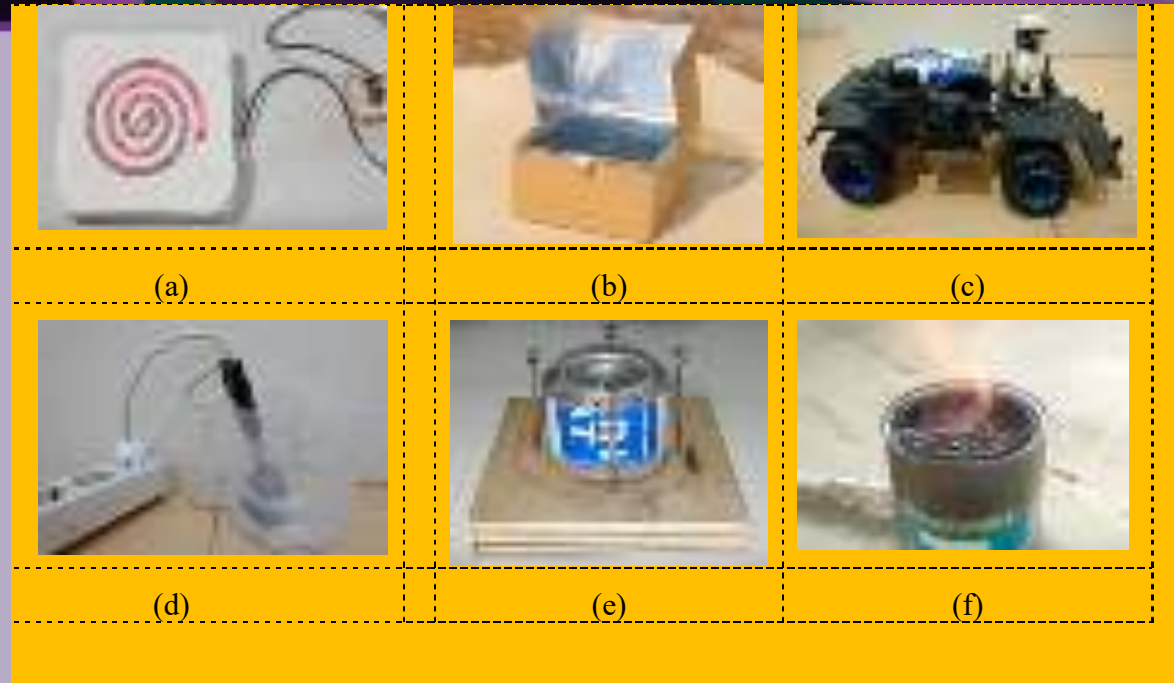
Problem Solving



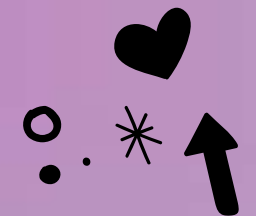
Project Development



Project Monitoring



- Kompur listrik sederhana
- Kompur tenaga surya
- Miniaturn mobil listrik
- Teko listrik sederhana
- Kompur sederhana dengan bahan bakar biodiesel
- Kompur sederhana dengan bahan bakar briket dari sekam padi





Proyek Minyak Jelantah, SMA 77, Jakarta

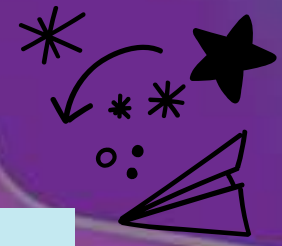


- Cerita Dilema: Banana Crispy dan Minyak Jelantah
- Reduksi Oksidasi
- Proyek Penjernihan Minyak, Pembuatan Sabun, Lilin Aromatik





Cerita Dilema Kebun Binatang dan Proyek Perlindungan Hewan: SMP Boarding School Nurul Fikri- Pandemi



INTEGRASI EMPATI DALAM PEMBELAJARAN BIOLOGY AND MATH FOR 7 GRADES



Perencanaan PA & RP Boarding
Guru melakukan video tour di lokasi kebun binatang yang akan menjadi lokasi belajar siswa tentang pelestarian.



Diagnosis Analisis
Analisis & Diagnosis Masing
Guru membuat di Handout, di buat dan di kirim ke siswa secara & online. Siswa melakukan permasalahan di Home



Fakta Content Integrasi
Guru menginformasikan di Home & di kirim ke siswa dengan menggunakan



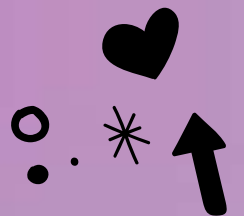
Discoring for understanding
Menganalisis permasalahan yang sudah di sampaikan siswa di kelas melalui diskusi



Proyek, Project Development
Guru membuat an. dan informasi mengenai hal tersebut. dan di kirim ke siswa di kelas & di kirim ke siswa

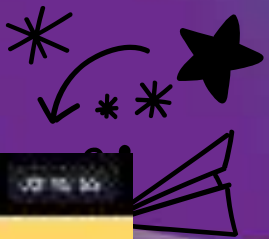


Online, Hasilnya
Guru menaruh hasil karya siswa di kelas & di kirim ke siswa di kelas & di kirim ke siswa di kelas & di kirim ke siswa





Sharing: SMA Labschool Jakarta-Pandemi



Zoom Meeting: SMA Labschool Jakarta

FASE 'TANPA' TEORI

pancasila

24 Maret 2020

#SOCIAL DISTANCING PROJECT

29.03.2020 **UPDATE COVID-19**

27 Februari 2020

UPDATE COVID-19

27 Februari 2020

FASE DENGAN TEORI

27 Februari 2020

Zoom Meeting: SMA Labschool Jakarta

Nyampe aja mikir kesini. asli keren

24 Maret 2020

#SOCIAL DISTANCING PROJECT

FASE DENGAN TEORI

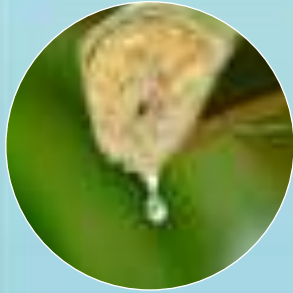
27 Februari 2020



Integrasi Budaya: Etnopedagogy-Ethnoscience-Etnochemistry



**Kelapa Hijau:
Kehamilan**



Cuka Bali



**Keris dan Jeruk
Nipis**



**"Ngeyeuh
Seuruh"**



Dewi Sri: Padi



Crocodile Bread



Wayang: Puppet





Integrasi Budaya



Roti Buaya: Kimia dalam Tradisi Betawi

Buaya muara merupakan reptil yang dapat berusia 70 hingga 100 tahun. Reptil yang dianggap buas dan mengeramkan ini ternyata memiliki makna yang berbeda bagi masyarakat di kota. Bagi mereka buaya merupakan simbol kesetiaan dan memiliki arti penting dalam upacara pernikahan adat Betawi.



Buaya muara

hidup agar dapat terus melanjutkan hidup. Oleh karena itulah, buaya menjadi simbol kelambatan dalam memelihara kehidupan.



Pakaian pernikahan adat Betawi dan roti buaya

Artisan	Detail
Lestari - Sireh Karawati (Tegal)	Tradisi ini merupakan salah satu penghormatan terhadap budaya dan nilai-nilai sejarah Betawi. Salah satu rangkaian acara di tradisi ini adalah persembahan, yaitu mempersembahkan peras manis yang dibuat dengan menggunakan jus gula kelapa yang diambil dari buah kelapa muda. Untuk itu, menggunakan mesin pemeras gula kelapa yang terbuat dari bahan-bahan alami. Proses pemerasan peras ini dilakukan secara manual. (Sireh, 2015). Proses pemerasan peras ini dilakukan secara manual dan dapat dijadikan sebagai souvenir pernikahan. Peras manis ini merupakan salah satu hidangan dalam kehidupan sehari-hari.
Nyirang - Kembang Ampas (Tegal dan Betawi)	Tradisi ini merupakan salah satu penghormatan terhadap budaya dan nilai-nilai sejarah Betawi. Salah satu rangkaian acara di tradisi ini adalah persembahan, yaitu mempersembahkan peras manis yang dibuat dengan menggunakan jus gula kelapa yang diambil dari buah kelapa muda. Untuk itu, menggunakan mesin pemeras gula kelapa yang terbuat dari bahan-bahan alami. Proses pemerasan peras ini dilakukan secara manual. (Sireh, 2015). Proses pemerasan peras ini dilakukan secara manual dan dapat dijadikan sebagai souvenir pernikahan. Peras manis ini merupakan salah satu hidangan dalam kehidupan sehari-hari.
Mel - Ala (Jepang dan Betawi)	Kebiasaan ini merupakan salah satu penghormatan terhadap budaya dan nilai-nilai sejarah Betawi. Salah satu rangkaian acara di tradisi ini adalah persembahan, yaitu mempersembahkan peras manis yang dibuat dengan menggunakan jus gula kelapa yang diambil dari buah kelapa muda. Untuk itu, menggunakan mesin pemeras gula kelapa yang terbuat dari bahan-bahan alami. Proses pemerasan peras ini dilakukan secara manual. (Sireh, 2015). Proses pemerasan peras ini dilakukan secara manual dan dapat dijadikan sebagai souvenir pernikahan. Peras manis ini merupakan salah satu hidangan dalam kehidupan sehari-hari.



Presentasi siswa, analisis
etnokimia



Project Sabun dengan susu
kuda liar, Bima, NTB

Proyek Etnokimia, Poster,
Drama, dll





Mobile Learning-Etnopedagogy-Pandemi



Taliwang Chicken and Bulayak Satay,
Lombok NTB



Dekke Naniura, Tapanuli



Betel leaf, Baduy





Klasifikasi berdasarkan Metodologi



Kuantitatif vs Kualitatif

PERBEDAAN	KUANTITATIF	KUALITATIF
FOKUS MASALAH PENELITIAN	EXPLANATION/ PENGGAMBARAN	PEMAHAMAN
KAJIAN PUSTAKA	MAYOR	MINOR
TUJUAN	GENERALISASI, PENGUKURAN	SPESEIFIK, PENGALAMAN
PENGUMPULAN DATA	ANGKA, JUMLAH BESAR	DESKRIPSI/TEKS/GAMBAR, JUMLAH KECIL/SEDIKIT
DATA ANALISIS DAN INTERPRETASI	STATISTIK, DESKRIPTIF TREND	ANALISIS TEKS/GAMBAR, MAKNA
PENYAJIAN DATA DAN EVALUASI PENELITIAN	STANDAR DAN FIXED, OBJEKTIF	FLEKSIBEL, EMERGING, SUBJEKTIF



PENELITIAN KUANTITATIF

Karakteristik dan Jenis Penelitian Kuantitatif



Deskriptif Kuantitatif (Survey) & Penelitian Korelasi

Peran Teori dan penelitian sebelumnya

Instrumen (Kuisisioner atau Tes Hasil Belajar)

Jumlah Partisipan/Kelas

Online



CONTOH: Survei

Subject Article

ecr

What did your child do today? Describing young children's daily activities outside of school

Journal of Early Childhood Research
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SAGE

Kristen A. Archbell

Robert J. Coplan

Yale University, Canada

Linda Rose-Krasnor

Yale University, Canada

Abstract

The purpose of this study was to describe the daily activities of young children outside of school. Participants were parents of 100 children (50 boys, 50 girls), ages 3 to 5. The What did your child do today questionnaire was developed as a daily log of both caregiver and child's report of children's activities. Among the results, children spend most of the waking time in structured activities (e.g., free play) compared to 14 percent of time in unstructured activities (e.g., sports). Children spend about two-thirds of their time in the company of family followed by peers (22%), and only 12 percent of time was spent alone. Some gender differences were also noted (e.g., boys engaged in more structured activities and girls were more likely to be spent in structured activities). Results are discussed in terms of implications for children's socio-emotional development.

Keywords

Analisis Aktivitas Anak di luar sekolah

Wawancara orang tua anak SD kelas 1-3

Hasil pada list aktivitas anak (%)



CONTOH: Survei

Factors Contributing to Teacher Burnout During COVID-19

Tim Freedy¹

In a study conducted in Indonesia for the 2020-2021 school year, the level of job and teaching stress levels, instructional performance, and satisfaction of 100 elementary school teachers in a rural area were measured. The study found that the level of job and teaching stress levels was significantly higher during the COVID-19 pandemic compared to the pre-COVID-19 period. This result was supported by several variables that showed a significant increase in stress levels during the COVID-19 pandemic.

Keywords: job stress, teaching performance, teacher satisfaction, COVID-19 pandemic.

Table 1
Correlations and Descriptive Statistics (N = 100)

Variable	1	2	3	4	5	6	7	8	9	10	M	SD
1. Teacher job stress	1										3.11	1.17
2. Instructional performance	-.21	1									3.11	1.07
3. Teacher satisfaction	-.28	-.17	1								3.11	1.04
4. Instructional performance	-.18	-.12	-.15	1							3.11	1.04
5. Improving job satisfaction	-.15	-.10	-.12	-.10	1						3.11	1.04
6. Instructional performance	-.12	-.08	-.10	-.08	-.08	1					3.11	1.04
7. Instructional performance	-.10	-.07	-.08	-.07	-.07	-.07	1				3.11	1.04
8. Instructional performance	-.08	-.05	-.06	-.05	-.05	-.05	-.05	1			3.11	1.04
9. Instructional performance	-.07	-.04	-.05	-.04	-.04	-.04	-.04	-.04	1		3.11	1.04
10. Instructional performance	-.05	-.03	-.04	-.03	-.03	-.03	-.03	-.03	-.03	1	3.11	1.04
M (Mean)											3.11	1.04
SD (Standard Deviation)											1.04	1.04

Table 2
Predictive Variables

Model	Predicted Variable		Predicted Variable		Predicted Variable		
	R	OR	B	S.E.	Exp. B	95% CI	P
Model 1	0.12	1.12	0.12	0.12	1.12	0.12	0.12
Model 2	0.15	1.15	0.15	0.15	1.15	0.15	0.15
Model 3	0.18	1.18	0.18	0.18	1.18	0.18	0.18
Model 4	0.21	1.21	0.21	0.21	1.21	0.21	0.21
Model 5	0.24	1.24	0.24	0.24	1.24	0.24	0.24
Model 6	0.27	1.27	0.27	0.27	1.27	0.27	0.27
Model 7	0.30	1.30	0.30	0.30	1.30	0.30	0.30
Model 8	0.33	1.33	0.33	0.33	1.33	0.33	0.33
Model 9	0.36	1.36	0.36	0.36	1.36	0.36	0.36
Model 10	0.39	1.39	0.39	0.39	1.39	0.39	0.39
Model 11	0.42	1.42	0.42	0.42	1.42	0.42	0.42
Model 12	0.45	1.45	0.45	0.45	1.45	0.45	0.45
Model 13	0.48	1.48	0.48	0.48	1.48	0.48	0.48
Model 14	0.51	1.51	0.51	0.51	1.51	0.51	0.51
Model 15	0.54	1.54	0.54	0.54	1.54	0.54	0.54
Model 16	0.57	1.57	0.57	0.57	1.57	0.57	0.57
Model 17	0.60	1.60	0.60	0.60	1.60	0.60	0.60
Model 18	0.63	1.63	0.63	0.63	1.63	0.63	0.63
Model 19	0.66	1.66	0.66	0.66	1.66	0.66	0.66
Model 20	0.69	1.69	0.69	0.69	1.69	0.69	0.69

SURVEI

- Penelitian Lingkungan Pembelajaran (Learning Environment)
- **Analisis lingkungan pembelajaran sains**
- Satu instrumen (Kuisisioner)-Valid
- Instrumen *Constructivism Learning Environment Survey (CLES)*
- Jurnal bereputasi
- Pertimbangan kondisi tes dan jumlah partisipan

Published: 07 July 2005

Evaluating an Integrated Science Learning Environment Using the Constructivist Learning Environment Survey

[Research Article](#) | [Open Access](#) | [Public Access](#)

Learning Environment Research 8, 107–109 (2005) | [View Article](#)

750 Accesses | 23 Citations | 0 Citations | [Metrics](#)

Abstract

This article reports the validity and evaluation of the Constructivist Learning Environment Survey (CLES). As part of a larger study, a comparative student version (CLES-CF) was developed to evaluate the impact of an innovative teacher development program (based on the Integrated Science Learning Environment (ISLE) model) in a rural classroom. Two separate versions of a scale for substance concepts (the scale are presented in side-by-side manners) measure students' perceptions on a five-point frequency response scale of the relevance of the content to their world. Items are presented in two scales: one for a teacher who had attended the ISLE program (CLES), as well as their perceptions of other students and resources developed by other teachers in the same school (CLES-CF). The five scales of the CLES are called: Perceptual Relevance, Usability of Science, Shared Content, Critical View, and Student Application. Using data collected from 100 students in 20 classrooms in north Texas, principal components factor analysis with varimax rotation and Kaiser-Meyer-Munich-Born (KMO) confirmed the construct structure of the CLES-CF. The factor structure returned



CONTOH: Instrumen (Kuisisioner)

INSTRUMEN LINGKUNGAN PEMBELAJARAN

- **Constructivism Learning Environment Survey (CLES)**
- **Questionnaire of Teacher Interaction (QTI)**
- Science Learning Environment Inventory (SLEI)
- Computer Laboratory Environment Inventory (CLEI)
- The Distance Education Learning Environments Survey (DELES)
- Metacognitive Orientation Learning Environment Scale – Science (MOLES-S)
- Personalised Learning Environment Questionnaire (PLQ)



CONTOH: Kuisisioner CLES

CONSTRUCTIVIST LEARNING ENVIRONMENT SURVEY (CLES)

1. Tujuan Kuisisioner

Kuisisioner ini berisi tentang pernyataan untuk mendeskripsikan aspek-aspek penting dari pembelajaran di kelas Anda. Tidak ada jawaban yang benar atau salah. Kuisisioner ini bukan tes, dan jawaban yang Anda berikan tidak akan mempengaruhi nilai Anda. Jawaban Anda akan membantu kami untuk meningkatkan kualitas pembelajaran selanjutnya.

2. Cara Menjawab Setiap Pernyataan

Kuisisioner ini terdiri dari 41 pernyataan. Pada setiap pernyataan, lingkari satu angka yang sesuai dengan jawaban Anda.

Contoh:

	Hampir selalu	Sering kadang-kadang	Jarang kadang-kadang	Hampir tidak pernah
Di kelas saya ...				

Guru memberikan saya pernyataan 5 4 3 2 1

- Jika Anda perpendapat guru Anda hampir selalu memberikan pernyataan, lingkari angka 5
- Jika Anda berpendapat guru Anda hampir tidak pernah memberikan pernyataan, lingkari angka 1
- Atau Anda dapat memilih angka 2, 3, atau 4 jika salah satu diantaranya merupakan jawaban yang lebih tepat

Pembelajaran dengan metode konstruktivisme

Kuisisioner mengukur persepsi siswa terhadap lingkungan pembelajaran konstruktivisme



CONTOH: Kuisisioner CLES

Belajar tentang Kehidupan di Luar Sekolah	1 Sangat Sangat	2	3	4	5 Sangat Sangat
Di kelas saya ...					
1. Saya belajar banyak kehidupan sehari-hari yang ada di luar kelas	5	4	3	2	1
2. Pembelajaran yang diajarkan dengan masalah-masalah kehidupan sehari-hari di luar sekolah	5	4	3	2	1
3. Saya belajar bagaimana cara dapat berinteraksi dengan kehidupan kehidupan sehari-hari di luar sekolah	5	4	3	2	1
Di kelas saya ...					
4. Saya merasa akan mendapatkan yang lebih baik tentang kehidupan sehari-hari di luar sekolah	5	4	3	2	1
5. Saya belajar hal-hal menarik tentang kehidupan sehari-hari di luar sekolah	5	4	3	2	1
Belajar tentang Saling	1 Sangat Sangat	2	3	4	5 Sangat Sangat
Di kelas saya ...					
6. Saya belajar bagaimana cara saling menghormati sesama	5	4	3	2	1
7. Saya belajar bagaimana cara saling menghormati sesama di dalam dan di luar kelas	5	4	3	2	1
Di kelas saya ...					
8. Saya belajar tentang perbedaan-perbedaan yang digunakan sebagai dasar dalam budaya yang	5	4	3	2	1

5 Dimensi

- Personal Relevance, Uncertainty and Shared Control , Critical Voice and Student Negotiation
- 25 Pertanyaan

Kuisisioner online

- Jumlah dan Kondisi pengisian kuisisioner

Teacher–student dialogue: transforming teacher interpersonal behaviour and pedagogical praxis through co-teaching and co-generative dialogue

Yuli Rahmawati, Rekha Koul & Darrell Fisher

Journal of Learning Environments Research
 5 (2013) 1–10
 DOI 10.1007/s12138-013-9123-4



Springer

Implications for teacher pedagogical praxis

The collaboration during teaching practices provided opportunities for the teachers to examine their beliefs about teaching and learning practices. Thus, it was not just their practice being examined, but also the teachers undertook continuous reflection about their beliefs and practices as pedagogical praxis. They learned and from each other to overcome the power of technical interest which always played a powerful role in their teaching, especially because we were more focused on students' marks than on students' understanding. Teachers tried to put more emphasis on practical (students' understanding) and emancipatory (students' empowerment) interests which strengthened the students' engagement during the lessons and possibly influenced the students' future lives.

I have come to appreciate the value of co-teaching and co-generative dialogues in helping me to grow and develop as a teacher.

(Teacher interview, November 7, 2010)

I believe that the students should always do their best and never give up. If they feel that they don't understand something—they are empowered to find out.

(Teacher interview, December 15, 2010)

Teacher-student dialogue: transforming teacher interpersonal behaviour and pedagogical praxis through co-teaching and co-generative dialogue

Yuli Rahmawati, Rekha Koul & Darrell Fisher

Learning Environments Research
5 (2022) 1–14
ONLINE FIRST
DOI: 10.1007/s11423-021-10000-4



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Learning Environments Research

Table 2 Scale internal consistency (Cronbach's alpha reliability), mean and standard deviations for each QTI scale

Scale	Alpha reliability	Mean	Standard deviation
Leadership	0.82	3.55	0.97
Understanding	0.88	3.39	1.05
Helpfulness	0.83	3.46	0.94
Student responsibility/freedom	0.61	2.70	0.68
Uncertain	0.81	2.33	0.95
Admonishing	0.85	2.68	1.10
Disoriental	0.74	2.13	0.79
Strict	0.65	2.83	0.77

N = 265; female = 130; male = 135

1 (Never), 2 (Seldom), 3 (Sometimes), 4 (Often) and 5 (Always). From the questionnaire data, the teachers' giving students' responsibility and freedom and strict behaviours were less noticeable. The teachers were uncertain, dissatisfied or admonishing to a lesser extent. The students perceived Leadership behaviour most frequently with a score of 3.55 and the Dissatisfied behaviour least frequently with a score of 2.23. The standard deviation for all the scales ranged from 0.68 to 1.10, suggesting a large diversity in the students' perceptions.

Profil Guru: Kuisisioner QTI

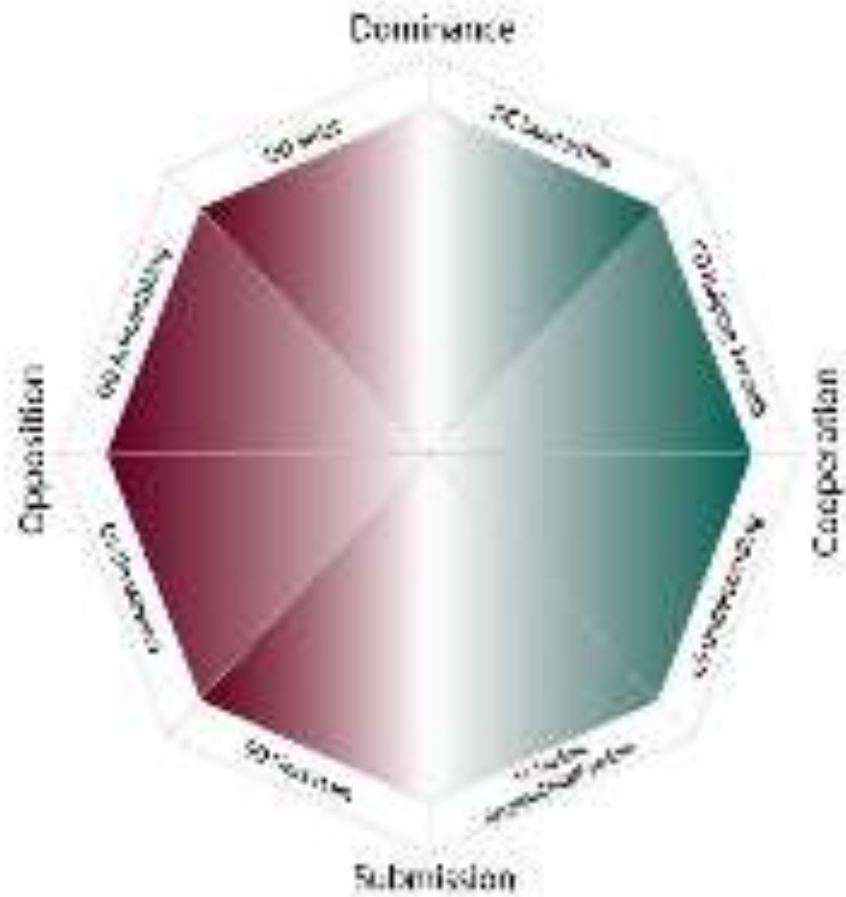


Fig. 1. The QTI researcher profile

Fig. 2. Teacher profile



Fig. 3. Teacher profile

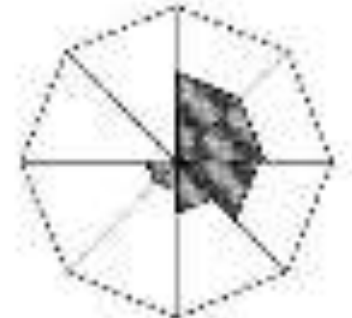
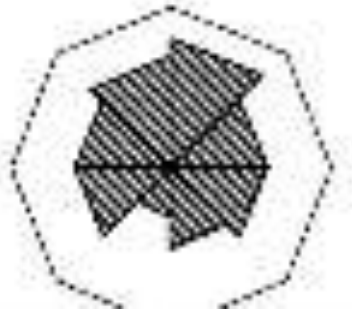


Fig. 4. Teacher profile





CONTOH: Korelasi



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Social and Behavioral Sciences

11 World Conference on Psychology, Cross-Cultural Studies (WCPCCS 2017)

The Relationship Between Creativity And Academic Achievement

Yaghoob Nami^a, Hossein Masrooli^b, Marzi Aghaei^c

^aPh.D. in Psychology, Department of Psychology, Faculty of Education, University of Guilan, Guilan, Iran
^bAssistant Professor, Department of Psychology, Faculty of Education, University of Guilan, Guilan, Iran
^cDepartment of Statistics, Faculty of Education, University of Guilan, Guilan, Iran

Abstract

The aim of this study was to investigate the relationship between creativity and academic achievement. The sample consisted of 100 high school students who were selected from the first grade of high school. The data were collected using the Torrens creativity test and the academic achievement test. The data were analyzed by using both descriptive and inferential statistics. The results showed a positive relationship between creativity and academic achievement. The results also showed that the relationship between creativity and academic achievement was significant.

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Penelitian Korelasi

- **Hubungan Kreativitas dengan Hasil Belajar**

Dua Instrumen

- Instrumen Torrens creativity (kuisisioner valid) dan tes hasil belajar (valid)

Kondisi Pengumpulan Data (Online)

- Pertimbangan dengan jumlah partisipan dan kondisi tes



CONTOH: Korelasi

Chemistry Education
Research and Practice



PAPER

View Article Online
DOI: 10.1039/C3RP00017G

100 views

Chem. Educ. Res. Pract. 2013, 12, 123

Relating motivation and student outcomes in general organic chemistry

Amir A. Arifin,¹ Nicholas J. L. Emmann,² Nathan Emmann,² James J. Coyle² and Ian J. Collier^{1*}

Abstract
A correlation study was conducted to determine the relationship between students' levels of self-regulation, self-efficacy, and motivation and their performance in general organic chemistry. The study involved 100 students who completed a self-regulation and self-efficacy questionnaire and a motivation questionnaire. The results showed that students with higher self-regulation and self-efficacy scores achieved higher scores on the motivation questionnaire and performed better in general organic chemistry. The findings suggest that self-regulation and self-efficacy are important factors for students taking general organic chemistry and how they connect to, and overlap with, student performance. A correlation study was conducted involving 100 undergraduate student participants at the institution over the semester and their outcomes. Motivation was measured using the original University Motivation Survey (UMS) and the revised form of the UMS (rUMS) which includes the subscale of self-regulation. The results suggest that self-regulation and self-efficacy are important factors for students taking general organic chemistry and how they connect to, and overlap with, student performance. The findings suggest that self-regulation and self-efficacy are important factors for students taking general organic chemistry and how they connect to, and overlap with, student performance. The findings suggest that self-regulation and self-efficacy are important factors for students taking general organic chemistry and how they connect to, and overlap with, student performance.

Submitted: 10 January 2013
Accepted: 12 February 2013

DOI: 10.1039/C3RP00017G

1234567

Penelitian Korelasi

- Hubungan Motivasi dengan Hasil Belajar Kimia Organik

Dua Instrumen

- Instrumen motivasi (kuisisioner valid) dan tes hasil belajar (valid)

Kondisi Pengumpulan Data (Online)

- Pertimbangan dengan jumlah partisipan dan kondisi tes



CONTOH: Kuisisioner dan Tes

Motivasi	Academic Motivation Scale-Chemistry (AMSC), Liu, Ferrell, Barbera, Lewis, Chem. Educ. Res. Pract., 2017,18, 191-213)
Berpikir Kritis	The Danczak–Overton–Thompson Chemistry Critical Thinking Test or DOT test, Chem. Educ. Res. Pract., 2020,21, 62-78)
Tes Kinerja	Performance assessment of Undergraduate Research Experiences (PURE) instrument , Harsh, Esteb, Maltese, Chem. Educ. Res. Pract., 2017,18, 472-485
Creative Problem Solving	The development of creative problem solving in chemistry (Wood, Chem. Educ. Res. Pract., 2006,7, 96-113)



PENELITIAN KUALITATIF



Karakteristik Penelitian Kualitatif



Pemahaman Mendalam



Participan (key informant)



Penelitian Kualitatif, Studi Kasus

Wawancara, reflektif jurnal, dokumen



Keterlibatan Guru



Peran Teori



CONTOH: Studi Kasus-Kualitatif?

Chemistry Education Research and Practice



PAPER

View Article Online
First Published Online: 2014, 13, 1388

Prospective chemistry teachers' mental models of vapor pressure

Hall Turker

The main aim of this study was to identify mental models of prospective chemistry teachers about the concept of vapor pressure. The study involved 85 students in the Chemistry Teacher Training Department of a state university in Turkey. Participants' mental models of vapor pressure were explored using a conceptual test that involved qualitative and quantitative questions. The qualitative data were analyzed to identify the mental models of the participants, and the quantitative data were analyzed to identify the number of correct answers. The results of the study showed that the majority of participants had a correct understanding of the concept of vapor pressure. The results also showed that the majority of participants had a correct understanding of the concept of vapor pressure. The results of the study showed that the majority of participants had a correct understanding of the concept of vapor pressure. The results also showed that the majority of participants had a correct understanding of the concept of vapor pressure. The results of the study showed that the majority of participants had a correct understanding of the concept of vapor pressure. The results also showed that the majority of participants had a correct understanding of the concept of vapor pressure.

**Analisis mental model guru
pada konsep tekanan uap**

85 guru diberikan tes (essay),
kemudian 18 orang diinterview

Hasil pada deskripsi mental model
khususnya pemahaman konsep

Keabsahan data dengan member
checking



CONTOH: Studi Kasus-Kualitatif?

Journal of Pedagogical Research, 2(1), 2018

Using a Makerspace approach to engage Indonesian primary students with STEM

Susan Mackley

Curriculum Development, Australia

Yudi Bahmawati, Ella Fitriani

Education, Yogyakarta, Indonesia

Rachel Sheffield and Relcha Koul

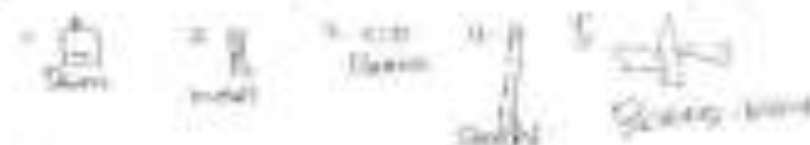
Curriculum Development, Australia

The paper examines the learning experiences of 30 Year 5 and 6 Indonesian primary school students, across four schools in South Jakarta, who participated in an integrated STEM program that used a 'maker' laboratory approach to foster engagement and experiential learning and evaluation and extension. The 'Wiggle Bots' project is critical in a manner engaging their skills and knowledge of informatics and science to create a 'bot' and then computing a variety and examined their confidence, engagement, stimulation and replication of science knowledge. The results indicated that a Makerspace approach was most effective in engaging students in the STEAM space, and students were also challenged in each robot-making group measured by pre-writing markers. With the application of STEAM knowledge and skills, we also posit that the distinctive approach is effective in the organization and dissemination of 21st century skills, problem-solving

18

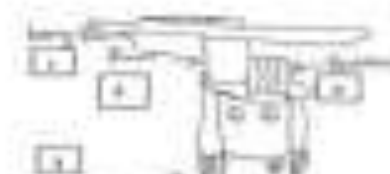
The following are examples of the responses:

Results



1. Mary (Indonesia), 2. Cobi, 3. Marissa, 4. Shaker (USA), 5. Prangky

Open





CONTOH: Studi Kasus-Kualitatif?

STEM-Project-Based Learning Integration to Improve Elementary School Students' Scientific Literacy on Alternative Energy Learning

Indah Fauziah, M. Fauzan F. F. M. Mardiyah

Universitas Pendidikan Indonesia, Jl. Setiabudi No. 221, Jakarta 10132, Indonesia

indah.fauziah@upi.edu, m.fauzan.f.f.mardiyah@upi.edu

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Abstract. The main goal of this research is to improve the scientific literacy of elementary school students on alternative energy learning. The research method used is qualitative research. The data collection method used is observation, interviews, and documentation. The data analysis method used is content analysis. The results of the research show that the scientific literacy of elementary school students on alternative energy learning is still low. The results of the research also show that the scientific literacy of elementary school students on alternative energy learning is still low. The results of the research also show that the scientific literacy of elementary school students on alternative energy learning is still low.

Keywords: STEM, Project-Based Learning, Elementary School Students, Scientific Literacy, Alternative Energy Learning

1. Introduction

Scientific literacy is the process of understanding and using scientific knowledge to solve problems in everyday life. It is a skill that is essential for all citizens in a democratic society. In Indonesia, the level of scientific literacy among elementary school students is still low. This is due to the lack of integration of science learning in the curriculum and the lack of resources for science learning. One of the solutions is to use Project-Based Learning (PBL) and STEM (Science, Technology, Engineering, and Mathematics) learning models. PBL is a learning model that focuses on solving real-world problems through project-based learning. STEM learning is a learning model that integrates science, technology, engineering, and mathematics learning. The combination of PBL and STEM learning models can improve the scientific literacy of elementary school students. This research aims to explore the effectiveness of the integration of PBL and STEM learning models in improving the scientific literacy of elementary school students on alternative energy learning.



Figure 1. Student working on a paper airplane project.

The research method used is qualitative research. The data collection method used is observation, interviews, and documentation. The data analysis method used is content analysis. The results of the research show that the scientific literacy of elementary school students on alternative energy learning is still low.

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Figure 2. STEM Project-based Learning Model: Paper Plane Making Model.

The project made by students is learning about the use of alternative energy sources from the STEM of elementary school students. The research method used is qualitative research. The data collection method used is observation, interviews, and documentation. The data analysis method used is content analysis. The results of the research show that the scientific literacy of elementary school students on alternative energy learning is still low.



CONTOH: Studi Kasus-Kualitatif?



Analysing Students' Spatial Abilities in Chemistry Learning Using 3D Virtual Representation

Yusuf, M. A., & M. A. M. (2018). *Edukasi: Jurnal Pendidikan*, 18(1), 1-10.

Abstract: This study aims to analyze the spatial abilities of chemistry students in learning chemistry using 3D virtual representation. The study was conducted in a chemistry laboratory at the University of Pendidikan Indonesia (UPI) in Bandung. The study was conducted using a qualitative approach. The data were collected through interviews and observations. The results of the study show that the spatial abilities of chemistry students are still low. This is due to the lack of understanding of the concept of spatial representation in chemistry learning.

Keywords: Spatial abilities, Chemistry learning, 3D virtual representation, Qualitative research.

Introduction: Spatial abilities are the ability to visualize and manipulate objects in three-dimensional space. This ability is important in many fields, including chemistry. In chemistry, spatial abilities are used to understand the structure and properties of molecules. However, many students have difficulty understanding spatial representation in chemistry learning. This is due to the lack of understanding of the concept of spatial representation in chemistry learning.

Method: This study was conducted using a qualitative approach. The data were collected through interviews and observations. The study was conducted in a chemistry laboratory at the University of Pendidikan Indonesia (UPI) in Bandung. The study was conducted using a qualitative approach. The data were collected through interviews and observations. The results of the study show that the spatial abilities of chemistry students are still low. This is due to the lack of understanding of the concept of spatial representation in chemistry learning.

Conclusion: The results of the study show that the spatial abilities of chemistry students are still low. This is due to the lack of understanding of the concept of spatial representation in chemistry learning. Therefore, it is necessary to develop learning materials that can improve the spatial abilities of chemistry students. This can be done by using 3D virtual representation in chemistry learning.

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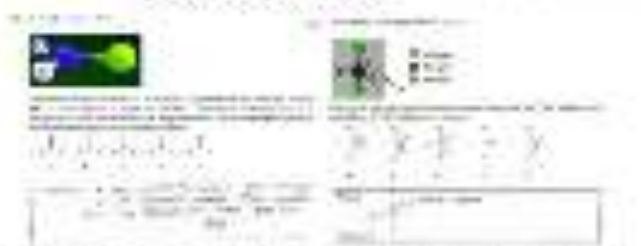


Figure 1: Hand-drawn diagram showing a chemical structure or process with arrows and labels.

Introduction: Spatial abilities are the ability to visualize and manipulate objects in three-dimensional space. This ability is important in many fields, including chemistry. In chemistry, spatial abilities are used to understand the structure and properties of molecules. However, many students have difficulty understanding spatial representation in chemistry learning. This is due to the lack of understanding of the concept of spatial representation in chemistry learning.

Method: This study was conducted using a qualitative approach. The data were collected through interviews and observations. The study was conducted in a chemistry laboratory at the University of Pendidikan Indonesia (UPI) in Bandung. The study was conducted using a qualitative approach. The data were collected through interviews and observations. The results of the study show that the spatial abilities of chemistry students are still low. This is due to the lack of understanding of the concept of spatial representation in chemistry learning.



CONTOH: Critical Auto/ethnography

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Reflective Practice: International and Multidisciplinary Perspectives

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Moments of critical realisation and appreciation: a transformative chemistry teacher reflects

by Rahmawati E. Peter-Charles Taylor¹

¹Department of Chemistry, Jember State University, Jember, Indonesia

²South Florida University, South Florida

Reflective Practice: International and Multidisciplinary Perspectives, Taylor & Francis, Critical Auto/ethnography, Scopus Q1, SJR 0.49, 2015

Teaching

Teaching is not simply a job

It is not simply transferring knowledge

It needs passion, love and caring

It needs patience, patience and empathy

In teaching, you will see your influence on future generations

Never relinquish, because as a teacher, you create the future

2003 – shock therapy for a beginning teacher or finding my teaching soul for being a teacher

My first teaching experiences were very difficult. At a vocational school, I taught four science classes, each with 40 students, and all were boys. On my first day, I came to one class – electricity stream – the students were just smiling in silence. Suddenly one of them threw a board at me to frighten me. My face paled but I had to remain calm even though I was very afraid. Then I told them that I was not afraid of fire board even though it was a lie. I started the lesson by introducing myself, but they did not listen to me. They only talked to each other. I was angry and became silent. I really did not know what I should do. In the end I decided to ignore their actions. I just taught the

CONTOH: Critical Auto/ethnography



Cultural Studies of Science Education
17 (2017) 1–13 | [DOI 10.1007/s11165-017-9555-5](#)

“The fish becomes aware of the water in which it swims”:
revealing the power of culture in shaping teaching
identity

Author

Author and Affiliation

doi: [10.1007/s11165-017-9555-5](#), Peter Charles Doyle

magnesium and hydrochloric acid that produces the products of magnesium chloride and hydrogen gas. He puts the petri dish on the overhead projector to help the students who sit at the back to see the chemical changes because it is quite a large class – about 32 students. The students look interested and pay attention. He starts to explain acid-base reactions and gives a simple example:



Base + acid → salt + water

After he writes the formula on the whiteboard, just as he is poised to explain one of the students has already put his hand up.

Mark: If the product is water, can we drink it?

Tony: That's a good question Mark. It is correct that H_2O (water) is the product of this reaction, which is the same formula as the water that we drink. However, in this chemical reaction we can't ensure that the product of this reaction is only salt and water without any excess of HCl or NaOH, which is dangerous for our health. What do you think?

Mark: Yes, that makes sense

Cultural Studies of Science Education, Critical
Auto/Ethnography, Scopus Q1, SJR 0.66, 2017



CONTOH: Penelitian Mixed Methods

Teacher–student dialogue: transforming teacher interpersonal behaviour and pedagogical praxis through co-teaching and co-generative dialogue

Yuli Rahmawati, Rekha Koul & Darrell Fisher

Learning Environments Research
An International Journal
ISSN 1539-1029
Learning Environments
DOI 10.1007/s10671-015-9114-4



Springer

Learning Environments

Implications for teacher pedagogical praxis

The collaboration during teaching practices provided opportunities for the teachers to examine their beliefs about teaching and learning practices. Thus, it was not just their practice being examined, but also the teachers made look continuously reflective about their beliefs and practices as pedagogical praxis. They learned and from each other to overcome the power of technical interest, which always played a powerful role in their teaching, especially because we were more focused on students' needs than on students' understanding. Teachers tried to put more emphasis on practical (students' understanding) and emancipatory (students' empowerment) interests, which strengthened the students' engagement during the lessons and possibly influenced the students' future lives.

I have come to appreciate the value of co-teaching and co-generative dialogues in helping me to grow and develop as a teacher.

(Teacher interview, November 7, 2010)

I believe that these students should always do their best and never give up. If they feel that they can't understand something—they are empowered to find out.

(Teacher interview, December 19, 2010)

Table 3 Two-way correlations

Scale	Construct							
	LEA	UNP	HELP	SKES	ENC	APM	USS	STRT
LEA	1	0.711	0.611	0.16	-0.711	-0.580	-0.16	0.07
UNP		1	0.711**	0.77**	-0.45**	-0.39**	-0.20**	-0.34**
HELP			1	0.49**	0.31**	0.64**	0.24**	0.27**
SKES				1	0.13	0.53**	0.18**	0.03
ENC					1	0.46**	0.18**	-0.1
APM						1	0.21**	0.41**
USS							1	0.15**
STRT								1

* $p < 0.05$, ** $p < 0.01$



CONTOH: Penelitian Mixed Methods



Indonesia Science, Mathematics, and Engineering Preservice Teachers' Experiences in STEM-TPACK

Design-Based Learning

- 1. Teacher Education in Indonesia (DOI:10.1007/978-94-007-5641-5_10)
- 2. Teacher Education in Indonesia (DOI:10.1007/978-94-007-5641-5_10)
- 3. Teacher Education in Indonesia (DOI:10.1007/978-94-007-5641-5_10)
- 4. Teacher Education in Indonesia (DOI:10.1007/978-94-007-5641-5_10)

Abstract This paper presents the Indonesian preservice teachers' experiences in designing Science Technology, Engineering, Mathematics and Computing (STEM) projects in the upper grade elementary school (TPACK) learning activities. The framework of TPACK was expanded to STEM to facilitate a research-based learning with a real-world problem in a school-based context. The construction of new pedagogy to enhance the preservice teachers' experiences and improvement in learning by designing the learning activities. The study explores the development and design of STEM-TPACK as a learning approach and method in designing STEM project. The data collection involves field notes, participant observation, semi-structured interviews, and reflective journaling and focus groups. The study aims to explore the experiences of the preservice teachers in designing STEM-TPACK learning activities in the upper grade elementary school. The data analysis was carried out by using the grounded theory approach. The findings of the study indicate that the preservice teachers' experiences in designing STEM-TPACK learning activities are not only limited to the design of the learning activities but also involve the development of the learning activities and the design of the learning activities. The preservice teachers' experiences in designing STEM-TPACK learning activities are not only limited to the design of the learning activities but also involve the development of the learning activities and the design of the learning activities. The preservice teachers' experiences in designing STEM-TPACK learning activities are not only limited to the design of the learning activities but also involve the development of the learning activities and the design of the learning activities.

Table 1. Research design overview

Phase	Year	PHU	Std. Deviation	Mikro-OR	t
T1	Year 1	3.05	1.41	4.21**	1.68
	Year 2	3.12	1.44	4.43**	1.68
T2	Year 1	3.25	1.38	4.41**	1.68
	Year 2	3.31	1.45	4.21**	1.68
T3	Year 1	3.48	1.44	4.41**	1.68
	Year 2	3.45	1.41	4.21**	1.68

Note: ** p < 0.01

2.1. Research Design Overview

The study is designed through the mixed method analysis of the research method. The research is designed as follows:

2.1.1. STEM-TPACK as a Learning Approach

The study is designed through the mixed method analysis of the research method. The research is designed as follows:

The study is designed through the mixed method analysis of the research method. The research is designed as follows:



CONTOH: Penelitian Mixed Methods



Validity and reliability of CDLE

Table 4 presents the results of the reliability analysis for the CDLE instrument. The results show that the instrument has a Cronbach's Alpha of 0.88, indicating that the instrument is reliable. The results also show that the instrument has a mean score of 4.5, indicating that the instrument is valid.

Table 5 presents the percentage of variance and eigenvalues for each factor. The first factor, 'Constructivist Learning Environment', accounts for 45.2% of the variance and has an eigenvalue of 3.12. The second factor, 'Student Empowerment', accounts for 28.5% of the variance and has an eigenvalue of 2.01. The third factor, 'Healthy and Sustainable World', accounts for 12.3% of the variance and has an eigenvalue of 0.87.

Item	Item Mean	Item SD	Item Correlation	Item Mean	Item SD	Item Correlation
CDLE1	4.5	0.8	0.8	4.5	0.8	0.8
CDLE2	4.5	0.8	0.8	4.5	0.8	0.8
CDLE3	4.5	0.8	0.8	4.5	0.8	0.8
CDLE4	4.5	0.8	0.8	4.5	0.8	0.8
CDLE5	4.5	0.8	0.8	4.5	0.8	0.8
CDLE6	4.5	0.8	0.8	4.5	0.8	0.8
CDLE7	4.5	0.8	0.8	4.5	0.8	0.8
CDLE8	4.5	0.8	0.8	4.5	0.8	0.8
CDLE9	4.5	0.8	0.8	4.5	0.8	0.8
CDLE10	4.5	0.8	0.8	4.5	0.8	0.8
CDLE11	4.5	0.8	0.8	4.5	0.8	0.8
CDLE12	4.5	0.8	0.8	4.5	0.8	0.8
CDLE13	4.5	0.8	0.8	4.5	0.8	0.8
CDLE14	4.5	0.8	0.8	4.5	0.8	0.8
CDLE15	4.5	0.8	0.8	4.5	0.8	0.8
CDLE16	4.5	0.8	0.8	4.5	0.8	0.8
CDLE17	4.5	0.8	0.8	4.5	0.8	0.8
CDLE18	4.5	0.8	0.8	4.5	0.8	0.8
CDLE19	4.5	0.8	0.8	4.5	0.8	0.8
CDLE20	4.5	0.8	0.8	4.5	0.8	0.8

Demographic Information

Demographic information including gender, age, and educational background.

Demographic	Percentage
Gender (Male/Female)	50%/50%
Age (18-25/26-35/36-45/46-55/56-65)	30%/30%/30%/10%
Educational Background (S1/S2/S3/S4)	40%/30%/20%/10%

Demographic Information

Demographic information including gender, age, and educational background.

Deep secondary learning outcomes of the CDLE instrument were analyzed using a descriptive analysis. The results show that the instrument is valid and reliable. The results also show that the instrument has a mean score of 4.5, indicating that the instrument is valid.

The instrument shows a Cronbach's Alpha of 0.88, indicating that the instrument is reliable. The results also show that the instrument has a mean score of 4.5, indicating that the instrument is valid.

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Pembuatan Instrumen, Mixed Methods, Scopus

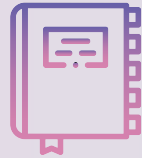


Klasifikasi berdasarkan Tujuan



Penelitian Tindakan Kelas

is **a systematic way** for teachers to discover what **works best in their own classroom** situation, thus allowing **informed decisions** about teaching
(Mettetal, 2002)



Typically involves **small-scale investigative projects** in the teacher's own classroom
(Richards and Lockhart , 1996)

is an activity that connects the **'doing' of teaching with the 'questioning' of research** that can be united if teachers are to become contributors who shape **educational policy and define effective classroom practice**
(Freeman, 1998)



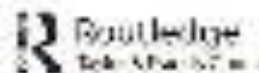
Penelitian Tindakan Kelas

- Penelitian Tindakan Kelas Masa Pandemi
- Kuantitatif dan Kualitatif (dominan)
- Model Penelitian Tindakan Kelas
- *Guru sebagai Peneliti*
- Fokus Penelitian
- Waktu, Akses dan Siklus



CONTOH: Penelitian Tindakan Kelas

INTERNATIONAL JOURNAL OF
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ISSN 1471-8757

An action research enquiry into child voice in the primary classroom by empowering children to arrange and implement their own timetable

Emer McCreery and Margaret Fenlon

University of Limerick, Dublin City University, Dublin, Ireland

ABSTRACT

This paper describes one of the voices of young children who have a voice in the organisation of their learning. The lack of involvement of children in the organisation of the school week was questioned and this prompted an investigation into a new approach to enabling children in the classroom to be actively involved in a teacher project that develops through a self-reflective spiral of planning, acting and observing, reviewing and further implementation. Participants followed a series of projects of increasing complexity and of varying time with the aim of fully involving children in the organisation of their learning when with the teacher in their classroom. Children did not work together in small individual or duo groups but rather designed, implemented, and adapted to their own weekly timetables with reference to the regulations set out by the Ireland's Department of Education and Skills (DES). The research which aims to establish a new way of organising the classroom can be seen as a first step towards a more student-centred approach in the classroom.

ARTICLE HISTORY

Received 20 August 2018
Accepted 11 April 2019

KEYWORDS

action research; child voice; self-reflective spiral; teacher effectiveness; primary

PTK Model Kemmis & Taggart

Siswa Sekolah Dasar, 6 kelas

Pelibatan siswa dalam mengelola pembelajarannya sendiri melalui timetable

Solusi: Kesempatan dalam melibatkan siswa

Kolaborasi guru dan siswa: desain, implementasi, dan refleksi jadwal/timetable siswa

Dampak student-centre



CONTOH: Penelitian Tindakan Kelas

Kriteria perbaikan

3. Aim of the research

The focus of this research is to examine the effectiveness of a child voice enabling initiative, specifically in a sixth class, primary school setting, with a view to increasing the part children play in the organisation of their day. The children design, implement and adhere to their own weekly timetable while also adhering to the regulations set out by the DfES, where guidelines set out a minimum weekly time framework for each class level. They are challenged to plan, deliver and reflect on their shared timetables and attempt to improve on child voice enabling practices based on these observations and reflections.

3.1 Criteria for improvement

While Lundy's Model (Lundy 2007) describes a very practical way in which child voice can be enacted meaningfully in a classroom environment Shier's Model (2001) provides a criterion against which improvement can be measured. The latter emphasises that reaching the fifth level of collaboration between adults and children is the ideal. Shier's Model (2001) depicts five levels:

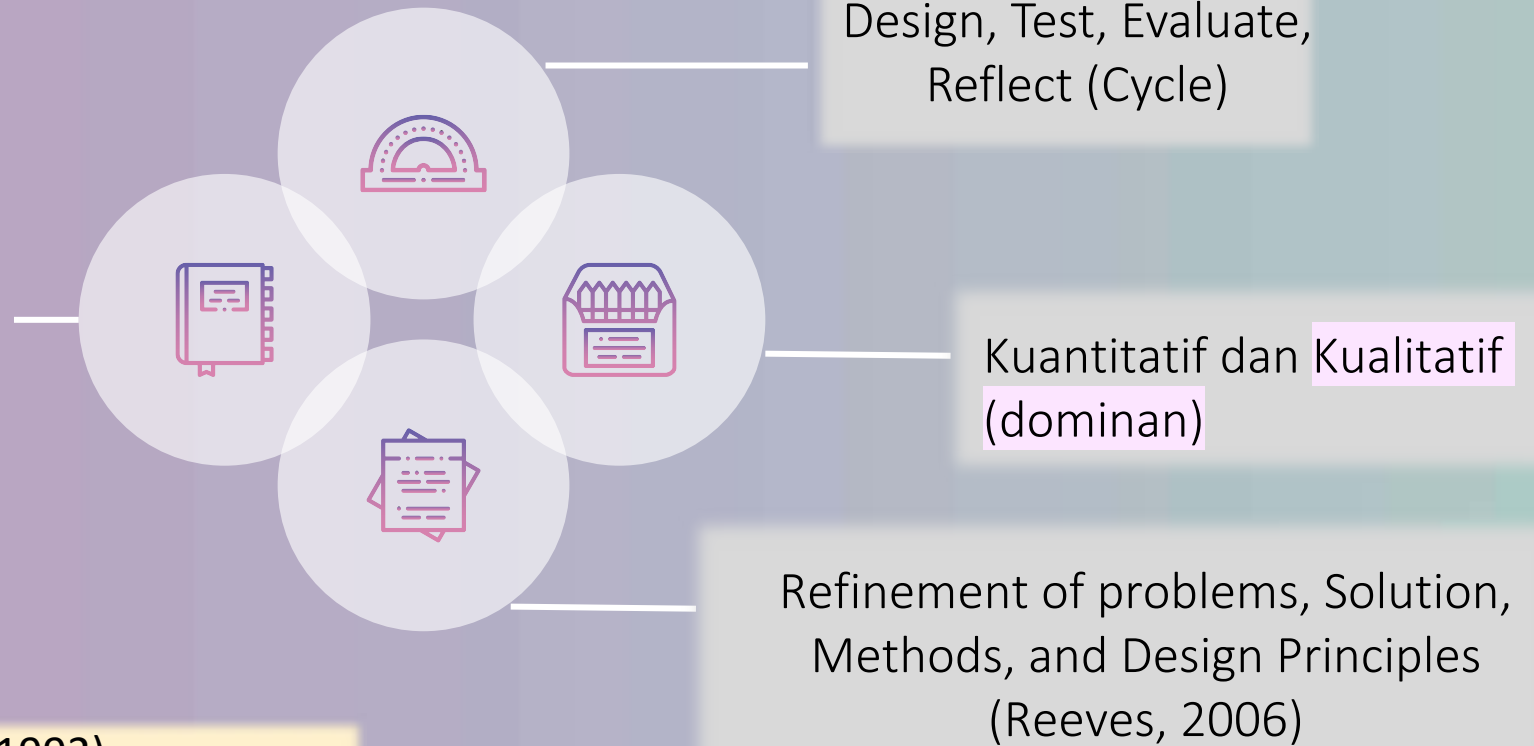
1. Children share power and responsibility for decision-making.
2. Children are involved in the decision making process.
3. Children's views are taken into account.
4. Children are supported in expressing their views.
5. Children are listened to.

The aim of this research was to move the children from the most basic level where they were listened to, to a position of shared power and responsibility in shared decision-making.



Design Based Research (DBR)

A Systematic, but flexible methodology aimed to improve educational practices through iterative analysis, design, development, based on collaboration among researchers and practitioners in real world settings and leading to contextual-sensitive design principles and theories (Wang & Hanafin, 2005)



Design Experiments (Brown, 1992),
Design Research (Collins, Joseph, & Bielaczyc, 2004)
Educational Design Research (McKenney & Reeves, 2012)

Design-Based Research and Technology-Enhanced Learning Environments (Wang and Hannafin, 2005)

Table 2.1 Characteristics of design-based research

Characteristic	Definition
Progressive	<ul style="list-style-type: none"> Design-based research evolves in theory and practice. The value of theory is expressed by the extent to which disciplinary theories and design practices
Contextual	<ul style="list-style-type: none"> Design focuses on a real and grounded, rich context, usually, learning and teaching. Design is embedded in real-world settings and the design process is embedded in, and studied through, design-based research.
Iterative, flexible, and flexible	<ul style="list-style-type: none"> Designers collaborate with the design processes and work together with participants. Processes are iterative cycles of analysis, design, implementation, and redesign. Initial plans are usually insufficiently detailed so that designers can make deliberate changes with flexibility.
Empirical	<ul style="list-style-type: none"> Sound research methods are used to monitor the credibility of ongoing research. Methods vary during different phases across needs and local usage and the focus of the research evolves. Rigor is rigorously maintained and discipline applied appropriate to the development phase.
Contextual	<ul style="list-style-type: none"> The research process, research findings, and changes from the initial plan are documented. Research work is connected with the design process, the setting. The context and local government design process evolves. Guidance for applying generated principles is needed.

Author/Year	Methods
Design-based research (Design-Based Research Collection, 2005)	<ul style="list-style-type: none"> Often conducted within a single setting over a long time. Iterative cycles of design, enactment, analysis, and redesign. Conceptually dependent instruments. Design and analysis are intertwined with development, movement of the artifact over time. Participants are often provided with new and old systems. Lead to the development of knowledge that can be used in practice and research beyond the context and other designers.
Design experiments (Fullan, 1991, 1995)	<ul style="list-style-type: none"> Comparison of multiple interventions. Multiple, single, or mixed variables. Multiple objectives in design. Small-scale, local knowledge. Flexible design conditions and objectives evaluation. Designing, practice, and testing.
Design research (Jenkins, 2004)	<ul style="list-style-type: none"> Design both directly provide, but not separate, products and improve, understand, and test design. Four characteristics: research, direct, systematic, documentation, formative, iterative, generative. Design goals, and the types of them are directly, flexible, design, iterative, and generative through the design process and the products, design context.
Developmental research (Van den Braker, 2001)	<ul style="list-style-type: none"> Begin with literature review, expert consultation, analysis of learning, and case studies of current practice. Formative and reflective with research and design in a continuous, iterative, and reflective. Systematic data collection, analysis, and reflection on research process and outcomes. Design and practice of the design process are intertwined, the design process. Formative testing, data collection. Principles are generated from knowledge with the focus of the design process.
Developmental research (Gibson, 1993, 5, 1994, 1995)	<ul style="list-style-type: none"> Type 2 emphasizing specific product or program and Type 1 focusing on the research process. Begin with defining research problem and reviewing related literature. Differentiating, planning, problem-solving, Type 1 and Type 2 research process during different phases. Workable research and research knowledge for the new methods. Employ multiple research methods, such as observation, field observation, document analysis, in-depth interviews, experiments, case study, survey, etc. Integrate qualitative and quantitative methods, reflective design and theory, qualitative and qualitative data analysis. Researcher's development research, and the research is published in various types of sources, websites are useful to report or solve data sets.
Design research (Bjerggaard & Wink, 2005)	<ul style="list-style-type: none"> Descriptive case study research and formative evaluation. Used to improve instructional systems and to develop and test design theory and practice. Feasibility, the effectiveness, efficiency, and generalizability. Design type 1: design process and design product, research.



CONTOH: Design Based Research (DBR)

Scaling Up Innovative Technology-Based Mathematics

Journal of Pedagogical Research, Volume 1, Issue 1, 2021, pp. 1-15
DOI: 10.30605/jpr.v1i1.10000000000000000000

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Abstract

Abstract: This study aims to explore the effectiveness of innovative technology-based mathematics learning models in improving the learning outcomes of elementary school students. The research method used is Design Based Research (DBR) through iterative cycles of design, implementation, evaluation, and redesign. The results of the study show that the use of innovative technology-based mathematics learning models can improve the learning outcomes of elementary school students. The research also found that the use of innovative technology-based mathematics learning models can improve the learning outcomes of elementary school students. The research also found that the use of innovative technology-based mathematics learning models can improve the learning outcomes of elementary school students. The research also found that the use of innovative technology-based mathematics learning models can improve the learning outcomes of elementary school students.

Effect of an Animated Classroom Story Embedded in Online Discussion on Helping Mathematics Teachers Learn to Notice

Journal of Pedagogical Research, Volume 1, Issue 1, 2021, pp. 1-15
DOI: 10.30605/jpr.v1i1.10000000000000000000

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Abstract

Abstract: This study aims to explore the effect of an animated classroom story embedded in online discussion on helping mathematics teachers learn to notice. The research method used is Design Based Research (DBR) through iterative cycles of design, implementation, evaluation, and redesign. The results of the study show that the use of an animated classroom story embedded in online discussion can help mathematics teachers learn to notice. The research also found that the use of an animated classroom story embedded in online discussion can help mathematics teachers learn to notice. The research also found that the use of an animated classroom story embedded in online discussion can help mathematics teachers learn to notice. The research also found that the use of an animated classroom story embedded in online discussion can help mathematics teachers learn to notice.

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Journal of Pedagogical Research, Volume 1, Issue 1, 2021, pp. 1-15
DOI: 10.30605/jpr.v1i1.10000000000000000000

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CONTOH: Design Based Research (DBR)

ARISE

Augmented Reality Game-Based Learning: Enriching Students' Experience During Reading Comprehension Activities

Hendrya Tubes Muñiz¹, Siska Bakliels¹, and Ramon Fabregat²

1. Faculty of Education, Universitas Negeri Jakarta, Indonesia
 2. Faculty of Education, Universitat de València, Spain
 Corresponding Author: hendrya@unj.ac.id

Abstract
 Program for International Students Assessment results indicate that while reading comprehension activities for government, teachers are struggling to find ways to motivate students to do reading comprehension activities and always to bring up an idea of learning approach in the classroom. The classroom is a social arena and will accommodate rich social interactions that are vital and educational. Using rich technological-based learning approaches we find augmented reality and game-based learning both of which have proven to be viable in education and give worksheets. This study is now observed than being used jointly. Some open questions to be asked are as follows: Does the use of augmented reality games in the classroom benefit the learning process or performance of students? Is the learning results measurable in terms of students' performance reading comprehension? Is this study consistent with the help of students' performance and reading comprehension using a design-based research approach? We then tested this in a real classroom and carried out both qualitative and quantitative observations. Our results show that AR in results in reading comprehension using the game does no difference to results from the more traditional approaches. Children do display greater motivation and

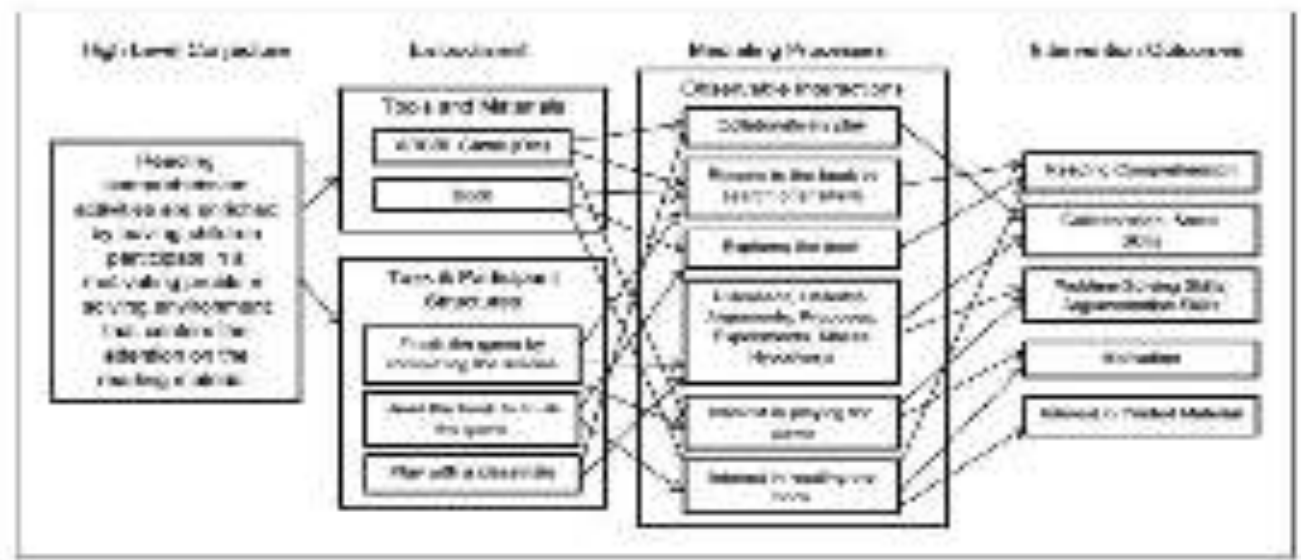


Figure 1. Students participating in the experiment. Experimental groups were students reading the books and playing with the game while Control groups were students only reading the book.



Research and Development (R&D)

The process of researching consumer needs and then developing products to fulfill those needs.



not to formulate or test theory but to develop effective products for use in schools

Kuantitatif (Survei) dan Kualitatif (Wawancara)

Publikasi pada dampak penggunaan produk



Research and Development (R&D)

Uttarakhand State
University, Dehradun

ACET



The research we have is not the research we need

Thomas C. Reeves - UCL

Global Centre for Research on Innovation and Technology 2021

Medical

The special issue 'Symbolic of Systems Design Research on Ecological Learning' features a special double issue edited by Drs. Frank M. Utter, M. Susan D. Mumma, and David B. Dunbar. The special issue contains 10 articles that address the challenges of designing systems that support ecological learning and development. The special issue is a result of a workshop on 'Ecological Learning and Development' held at the University of Illinois at Urbana-Champaign in 2019. The workshop was organized by the Center for Research on Innovation and Technology (CRIT) and the Center for Research on Ecological Learning and Development (CEL). The workshop brought together researchers from various disciplines, including psychology, education, and design, to discuss the challenges of designing systems that support ecological learning and development. The workshop was a success, and the special issue is a testament to the collaborative efforts of the researchers who participated in it.

There is incredible potential for digital technology to transform education, but it will only be realized if we focus on the right research and development.

November 2021

It was in the USA that the concept of 'Design Thinking' was first introduced. The article 'Design Thinking: A New Paradigm for Innovation' by Peter Brabeck-Letton and David Brabeck-Letton, published in the journal 'Strategic Management Journal' in 2005, was the first to introduce the concept of 'Design Thinking' as a new paradigm for innovation. The article argued that 'Design Thinking' is a process that involves the use of design to solve complex problems. It is a process that is iterative and collaborative, and it involves the use of design to create solutions that are both innovative and practical. The article also argued that 'Design Thinking' is a process that can be used to solve a wide range of problems, from product design to organizational design. The article was a success, and it led to the development of 'Design Thinking' as a new paradigm for innovation.

ES

Global Centre for Research on Innovation and Technology 2021

SCALE

Topic	Field	Current research focus	Required research focus
Social media and education	EdTech, Digital Learning	The current focus of social media research is on the use of social media for marketing and advertising. This research is largely descriptive and does not address the educational implications of social media.	There needs to be a shift in focus from marketing and advertising to the educational implications of social media. This research should focus on the use of social media for learning and development.
Social media and professional development	EdTech, Digital Learning	Current research on professional development is largely focused on the use of social media for marketing and advertising. This research is largely descriptive and does not address the educational implications of social media.	Social media research should focus on the educational implications of social media. This research should focus on the use of social media for learning and development.
EdTech (general)	EdTech, Digital Learning	Most EdTech research is focused on the use of technology for marketing and advertising. This research is largely descriptive and does not address the educational implications of technology.	EdTech research should focus on the educational implications of technology. This research should focus on the use of technology for learning and development.
EdTech and professional development	EdTech, Digital Learning	Most research on professional development is focused on the use of technology for marketing and advertising. This research is largely descriptive and does not address the educational implications of technology.	Professional development research should focus on the educational implications of technology. This research should focus on the use of technology for learning and development.



CONTOH: Research and Development (R&D)

Education Policy Center (EPC) / OCMEB / İİCT / DÖİ /
Büyükdere / İstanbul / Türkiye

AECT

CERTIFICATE OF RESEARCH CREDENTIAL



Digital storytelling as a disciplinary literacy enhancement tool for EFL students

Hilalcha Çabbo¹ · Ayla Laleli² · Gazi H. Yılmaz³ · Gülsüm Akın⁴ ·
Gülferi N. Lajinli⁵

Accepted: 15 June 2024 / Published online: 15 October 2024
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Abstract

This research explores the process of disciplinary literacy acquisition of students who received English as a Foreign Language (EFL) instruction in Turkey. The study aims to investigate the impact of digital storytelling (DST) on the disciplinary literacy skills of EFL students. The study was conducted in a secondary school in Istanbul, Turkey. The research design was a quasi-experimental design. The study was conducted in two groups: an experimental group and a control group. The experimental group received DST instruction, while the control group received traditional instruction. The study was conducted over a period of 12 weeks. The data were collected through pre-test and post-test scores. The results of the study showed that the experimental group had significantly higher scores than the control group in the post-test scores. The results also showed that the experimental group had significantly higher scores than the control group in the post-test scores. The results of the study showed that the experimental group had significantly higher scores than the control group in the post-test scores. The results of the study showed that the experimental group had significantly higher scores than the control group in the post-test scores.

Keywords Acquiring · Digital storytelling · DST · Disciplinary literacy · English as a Foreign Language · EFL · Turkey · Technology in education · Turkey · Turkey · Turkey

Method

Adopting Yin's (2004) research design classification, this project was conducted as a type IV embedded multiple-case study. Embedded designs involve multiple units of analysis, including quantitative and qualitative measures, derived from students' tests and field notes (Yin 2004). Such designs also use multiple cases. In this investigation there were two cases: an Australian case (Case 1) and a Kyrgyzstan case (Case 2). The focus of each of these cases was slightly different. The aim of the Australian case was to improve non-EFL students' disciplinary literacy knowledge and the aim of the Kyrgyzstan case was to improve EFL students' disciplinary literacy. However, there are three reasons why comparisons can be made. First, both cases used the same instrument to measure students' content knowledge (outlined in data collection instrumentation). Third, the length of the intervention (in hours) was similar between the two cases (outlined in research background).

There were also two key differences between the cases that allowed using the data from the Australian case as a baseline data. First, unlike the Australian case, the Kyrgyzstan case enhanced the intervention with DST. Second, there was a difference in participants' language background: the Australian study included non-EFL learners, but the Kyrgyzstan participants were all EFL learners. Consequently, analysis of the two cases was conducted

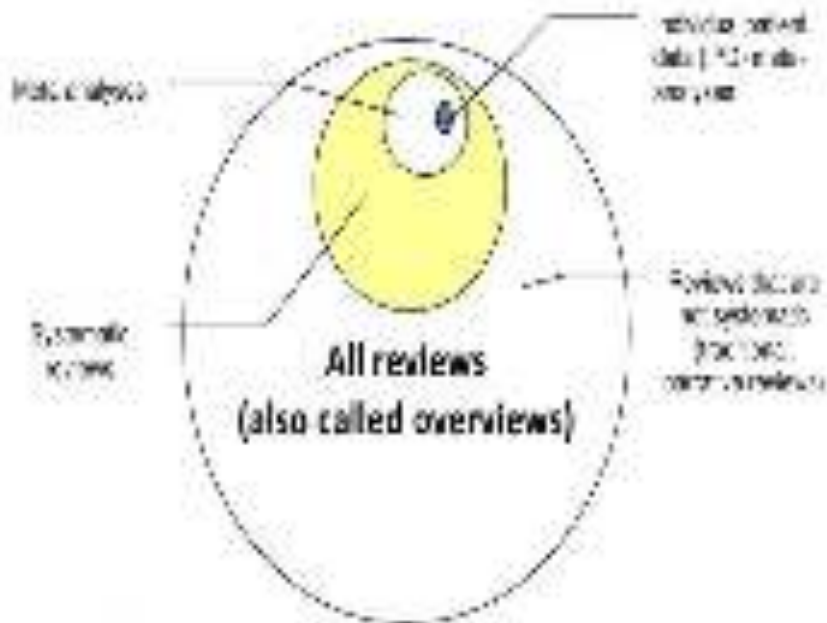
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Springer



Literature Review

Types of Review Articles



Hill, et al. (2014). Systemic reviews and meta-analysis: An illustrated evidence-based guide. *Cochrane Database of Systematic Reviews*, 2014, 01-25.

Jenis	Deskripsi
Literature Review	<ul style="list-style-type: none">• Umum• Analisis Kualitatif• Reputasi Sumber (Bias)• Tidak spesifik jenis penelitian (kuantitatif atau kualitatif)
Systematic Review	<ul style="list-style-type: none">• Spesifik• Memiliki pertanyaan spesifik• Analisis Kualitatif• Reputasi Sumber• Tidak spesifik jenis penelitian (kuantitatif atau kualitatif)
Metaanalysis	<ul style="list-style-type: none">• Cek studi systematic review• Pengumpulan data dari penelitian yang sama, untuk menganalisis hasil yang signifikan• Analisis statistik



CONTOH: Literature Review

Journal and Faculty of Education, Universitas Pendidikan Indonesia, 2015, 31-38, 2015

Transnational Examination of STEM Education

Richard Sheffield¹, Cecilia Lopez², Yuliana Widiyanti³, Elysa H. H. P⁴, and Scott H. Jones⁵ and Elaine Rouse⁶

¹University of Sheffield, Sheffield, UK; ²University of Sheffield, Sheffield, UK; ³Universitas Pendidikan Indonesia, Depok, Indonesia; ⁴Universitas Pendidikan Indonesia, Depok, Indonesia; ⁵University of Sheffield, Sheffield, UK; ⁶University of Sheffield, Sheffield, UK

Keywords: STEM, Higher Education, Transnational, Higher Education, Higher Education

Journal and Faculty of Education, Universitas Pendidikan Indonesia, 2015, 31-38, 2015

Abstract

STEM (Science, Technology, Engineering, and Mathematics) education is a global phenomenon that has become a priority for many of the world's governments. In this paper, we explore the global context of STEM education and the role of higher education in this context. We discuss the challenges and opportunities for higher education in this context and the role of higher education in this context. We discuss the challenges and opportunities for higher education in this context and the role of higher education in this context. We discuss the challenges and opportunities for higher education in this context and the role of higher education in this context.

Scopus Q3 ,SJR 0.37, free, 2018

STEM education in Indonesia

The Indonesian archipelago, made up of around 17,500 islands, is located in Southeast Asia and lies along the equator between the Indian and Pacific Oceans. Along with its geographical and cultural diversity it shares different values and practices from more than 300 ethnic groups (Blackley, Rahmawati, Fitriani, Sheffield, & Ktul, 2018). Today, Indonesia faces many challenges as the world's fourth most populated country with 43% of its 250 million inhabitants under the age of 25 (OECD, 2016). This current demographic situation has led to a rapidly changing age structure, with the possible advantage of what is referred to as a "demographic dividend" (Hayes & Setyocahuri, 2015, p. 1), a condition that can provide a powerful stimulus to economic growth and family welfare. Indonesia has had strong and stable growth over the past two decades with gross domestic product (GDP) growth rates above 5% annually despite the challenges of investment, commodity prices, infrastructure, air pollution, deforestation and the depletion of its natural resources (OECD, 2016). The Indonesian economy relies on natural resources; however, science and technology play an increasingly important role in continued growth and development (Hayes & Setyocahuri, 2015).

Current health of STEM education

The 2017 Global Human Capital report ranks Indonesia at 65 out of 130 countries based on the four thematic dimensions of capacity, deployment, development, and know-how (World



Contoh Penelitian

Review of Educational Research....H Index: 153, Q1, SJR: 5.97.....SAGE Publications Inc.

Judul	Description
A Comparison of Children's Reading on Paper Versus Screen: A Meta-Analysis	<ul style="list-style-type: none">• 39 studies, 30 articles (n = 1,812 children)• Children's story comprehension and vocabulary learning in relation to medium (reading on paper versus on-screen)• 1-8 years old
Children's Creativity: A Theoretical Framework and Systematic Review	<ul style="list-style-type: none">• Three-dimensional taxonomy• The recent literature (2006–2017, 184 studies)• The principles of complex dynamic systems theory
A Systematic Review of Teacher–Child Interactions With Multilingual Young Children	<ul style="list-style-type: none">• Thirty-one studies were included.• Multilingual children with low language proficiency in the majority language and (b) hardly compared between monolingual and multilingual children.

- Systematic Literature Review, Meta-Analysis



A Systematic Review of Teacher–Child Interactions With Multilingual Young Children

Journal of Multilingual and Multicultural Development
August 2019, Vol. 40, No. 4, pp. 740–768
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A Systematic Review of Teacher–Child Interactions With Multilingual Young Children

Annagien Lantipias
Mayra Mavcarillo Lara
Marjolein I. Dank
Nicolai F. Klöding
Jan-Willem Smit
University of Groningen

Abstract Multilingual children are the norm in many parts of the world, and the quality of their teacher–child interactions is important for their educational success. Little is known about the nature of teacher–child interactions with multilingual children, and research on this topic is often limited to studies of monolingual children. This review summarizes the available evidence on teacher–child interactions with multilingual children, and compares these interactions to those of monolingual children. The review also discusses the implications of these findings for the development of multilingual children, and the role of the home language and the school language in this process. The review also discusses the implications of these findings for the development of multilingual children, and the role of the home language and the school language in this process. The review also discusses the implications of these findings for the development of multilingual children, and the role of the home language and the school language in this process.

Keywords: early childhood education, multilingualism, teacher–child interaction

Method

Inclusion and Exclusion Criteria

We formulated four inclusion criteria to determine which studies would be eligible for the systematic review. The studies had to be (1) empirical and had to focus on the (2) teacher–child interactions of (3) young (up to 7 years) (4) multilingual children. We were interested in studies that presented direct assessment of teacher–child interactions and thus had to include empirical interaction data. The review focuses on studies in early childhood education but includes a rather wide age range. As school systems differ around the world in their age range for early childhood education and our aim was to be as inclusive as possible, children in the studies could be up to 7 years old. Furthermore, because the review focuses on interactions that are specific to multilingual children, inclusion criteria should at least include interactions with multilingual children or should distinguish between interactions with monolingual and multilingual children. Furthermore, we only focused on children who speak a different home language and from the majority language at school. Our search included the entire scope of classroom activities, including both academic and play activities. Only studies published in the period between 1940 and 2016 were included. This scope was chosen as we aimed for a complete overview of previous research, but the results still proved to be applicable for present-day education.

Articles were excluded when (1) teacher–child interactions of multilingual children were not differentiated from those of monolingual children, (2) the article focused on foreign language education, (3) it focused on sign language for deaf children as a form of nonlinguistic communication, (4) teacher–child interactions were not used as direct data in the study (e.g., narratives about interactions), (5) the article was a position paper with no data rather than an empirical article, and (6) it was published in a language other than English or Dutch.



Search Procedure

Search terms were defined to cover our three topics of interest: multilingualism, interaction, and school setting (Table 1). Databases that included research on linguistics, psychology, or the educational sciences were searched (Table 2) with all possible combinations of search terms from the three topics. This search resulted in 2302 articles. The first 100 articles were split up into four partly overlapping sets of 50 (1–50, 25–75, 50–100, 1–25/75–100), and each set was judged on the inclusion criteria by one of the first four authors. This way the inclusion criteria could be tested, evaluated, and ultimately discussed by the research group, thereby developing the final inclusion criteria as previously mentioned.

TABLE 1

Search terms by category

Category	Search terms
Multilingualism	Bilingual [*] , multilingual [*] , heritage language [*] , English language learner, English as an additional language, French as a second language, English as a second language, immersion classroom [*] , non-native [*] , L2-learner [*] , second language learner [*] , dual language learner [*] , multicultural class [*] , Hispanic children, home language [*]
Interaction	classroom interaction, teacher-child interaction, verbal interaction, teachers-child relation [*] , talk [*] , conversation [*] , academic language [*] , discourse [*]
School setting	kindergarten, primary school, elementary school, preschool, early childhood education

TABLE 2

Included databases

Search engine	Databases
Web of Science	Educational Sciences, Education & Educational Research, Language & Linguistics, Linguistics, Psychology, Psychology Developmental/ Educational/Multidisciplinary/Social, Sociology
EBSCOhost	Academic Search Premier, Communication & Mass Media Complete, ERIC, Primary Search, PsycARTICLES, Psychology and Behavioural Science Collection, PsycINFO, SocINDEX
Linguistics and Language Behavior Abstracts	



TABLE 4

Inventory of strategies for each domain and instructional value category

Domain	Classroom practices	Instructional Value			
		A	B	C	D
Teacher support	Creates safe learning environment—the teacher, use of reciprocal communication, concern close to the mother, teacher-child relationship	5	0	1	0
	Partake non-interactive with songs and different language poem	2	0	1	0
	Add a play demand to activities	1	0	0	0
	Use the home language and interact in the classroom environment—for example, modeling, providing encouragement, using bilingual assistant	5	1	0	0
Classroom organization	Provide different learning opportunities—the teacher, activities that also longer, to encourage participation in classroom activities	2	0	0	0
	Consistent classroom routine	3	0	1	0
	Use the home language to manage the classroom—for example, get attention, direct an activity	1	0	2	0
Instructional support	Stimulate language and interaction—the teacher, amount of materials, simplified speech, short and low complex teacher talks	4	0	2	0
	Use complex, accurate and system—for example, lexical diversity, syntactical complexity	3	0	0	1
	Use of vocabulary, comprehension	3	1	1	0
	Use of home language for transacting purposes—for example, corrections, feedback, repair, teacher	1	2	2	1
	Support contextual discourse—for example, use of <i>wa-panapa</i> , clarifications, requests, requests, encourage interaction	0	1	0	0
	Scaffold language use	1	1	0	0

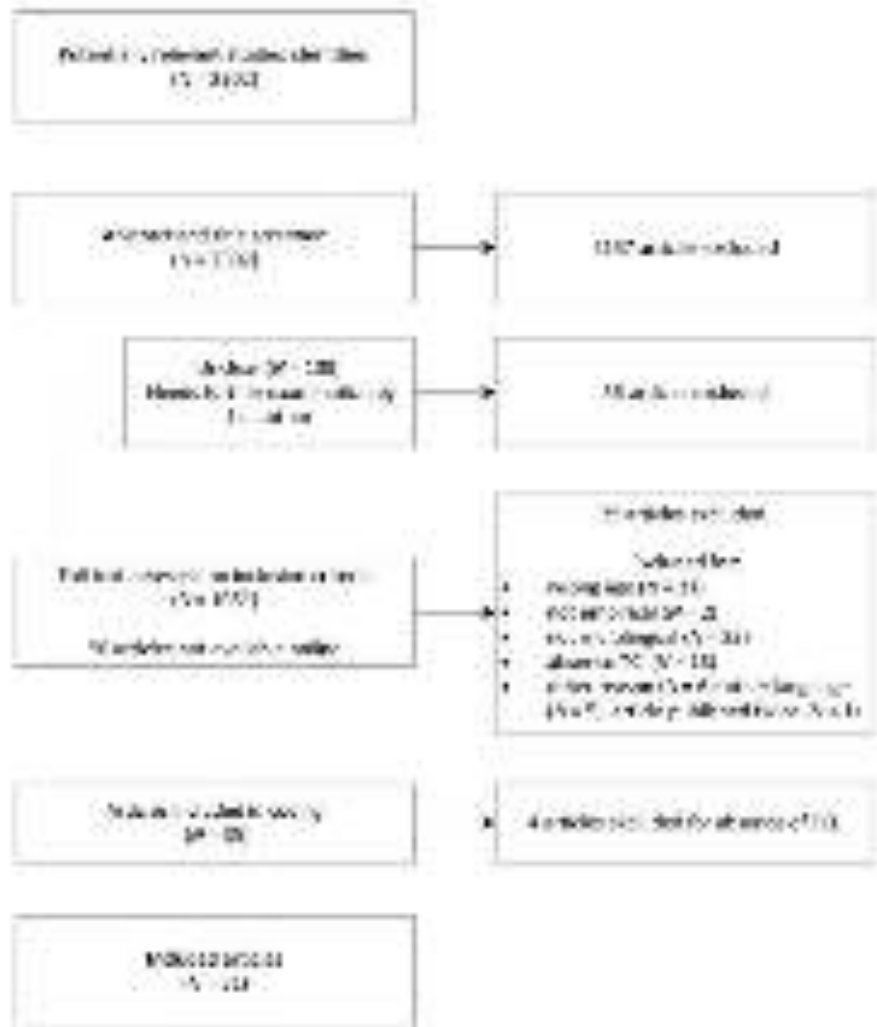


FIGURE 1. New development strategy for education



04. PENUTUP



PENUTUP

Penelitian dapat dilakukan dengan pertimbangan (konsep, jenis penelitian, akses, etika, fleksibilitas)

Penelitian pendidikan sebagai sarana peningkatan kualitas pembelajaran, kompetensi, dan refleksi diri

Penelitian yang sesuai konsep, sederhana, dan menarik, serta sesuai kondisi di lapangan

Tetap semangat dengan segala tantangan



Terima kasih

Email: yrahmawati@unj.ac.id