ISSN 2087-9490 (p) ISSN 2597-940X (e)

AL-ISHLAH
JURNAL PENDIDIKAN

Accredited SINTA 2

Publisher:
LP2M - STAI Hubbulwathan Duri
Bengkalis, Riau, Indonesia

Archive

ACTIVE ARCHIVE

ID	MM-DD SUBMIT	SEC	AUTHORS	TITLE	STATUS
1779	01-21	ART	Astuti, Zulfah, Fitriana	DEVELOPMENT OF STUDENT WORKSHEETS BY USING THE CONTEXT OF...	Vol 14, No 4 (2022): AL-ISHLAH: Jurnal Pendidikan

1 - 1 of 1 Items

Start a New Submission

CLICK HERE to go to step one of the five-step submission process.

Refbacks

ALL NEW PUBLISHED IGNORED

	DATE ADDED	HITS	URL	ARTICLE	TITLE	STATUS	ACTION
☐	2022-09-27	16	https://scholar.google.com/	Development of Student	—	New	EDIT |

AL-ISHLAH
JURNAL PENDIDIKAN
sinta DOAJ
Publisher:
LP2M - STAI Hubbulwathan Duri
Bengkalis, Riau, Indonesia

#1779 Summary

SUMMARY REVIEW EDITING

Submission

Authors	Astuti Astuti, Zulfah Zulfah, Nur Fitriana
Title	Development of Student Worksheets by Using the Context of Riau Traditional Houses on Quadrilaterals and Triangles
Original file	1779-8245-1-SM.PDF 2022-01-21
Supp. files	None
Submitter	fitri nur fitri ana
Date submitted	January 21, 2022 - 05:44 AM
Section	Articles
Editor	Widia Yunita
Abstract Views	117

Status

Status	Published Vol 14, No 4 (2022): AL-ISHLAH: Jurnal Pendidikan
Initiated	2022-09-21
	2023-10-30

#1779 Review

SUMMARY | REVIEW | EDITING

Submission

Authors	Astuti Astuti, Zulfah Zulfah, Nur Fitriana
Title	Development of Student Worksheets by Using the Context of Riau Traditional Houses on Quadrilaterals and Triangles
Section	Articles
Editor	Widia Yunita

Peer Review

Round 1

Review Version	1779-8246-2-RV.DOCX 2022-01-26
Initiated	2022-01-26
Last modified	2022-01-28
Uploaded file	Reviewer A 1779-8337-1-RV.DOCX 2022-01-27

Editor Decision

Decision	Accept Submission 2022-09-21
Notify Editor	Editor/Author Email Record 2022-09-21
Editor Version	1779-8331-1-ED.DOCX 2022-01-26 1779-8331-2-ED.DOCX 2022-09-21
Author Version	1779-12142-1-ED.DOCX 2022-07-21 DELETE 1779-12142-2-ED.DOCX 2022-09-20 DELETE
Upload Author Version	Telusuri... Tidak ada b...as dipilih. Upload

Online Submissions
Editorial Board
Focus and Scope
Article Processing Charges
Peer Review Process
Screening Plagiarism
Open Access Policy
Journal License
Publication Ethics
Reviewer Acknowledgement
Visitor Statistics
Indexing
Editorial Address
Author Guidelines
SUPERVISED BY
RELAWAN JURNAL INDONESIA
ISSN INTERNATIONAL CENTER

#1779 Editing

SUMMARY | REVIEW | EDITING

Submission

Authors	Astuti Astuti, Zulfah Zulfah, Nur Fitriana
Title	Development of Student Worksheets by Using the Context of Riau Traditional Houses on Quadrilaterals and Triangles
Section	Articles
Editor	Widia Yunita

Copyediting

COPYEDIT INSTRUCTIONS

Copyeditor: Raja Rachmawati

REVIEW METADATA		REQUEST	UNDERWAY	COMPLETE
1.	Initial Copyedit File: None	2022-09-21	—	—
2.	Author Copyedit File: None Telusuri... Tidak ada b..as dipilih. Upload	—	—	
3.	Final Copyedit File: None	—	—	—

Copyedit Comments: No Comments

Layout

None

Editorial Board
Focus and Scope
Article Processing Charges
Peer Review Process
Screening Plagiarism
Open Access Policy
Journal License
Publication Ethics
Reviewer Acknowledgement
Visitor Statistics
Indexing
Editorial Address
Author Guidelines
SUPERVISED BY
RELAWAN JURNAL INDONESIA
ISSN INTERNATIONAL CENTER
INTERNATIONAL STANDARD

Contents list avaliable at Directory of Open Access Journals (DOAJ)
Al-Ishlah: Jurnal Pendidikan
ISSN: 2087-9490 (Printed); 2597-940X (Online)
Journal Homepage: http://www.journal.staihubbulwathan.id/index.php/alishlah

Development of Student Worksheets Using the Context of Riau Traditional Houses on Quadrilaterals and Triangles

DOI:

Info Artikel

Keywords:
Development
LKPD
Square and Triangle

Abstract

This study aims to produce teaching materials in the form of LKPD using the context of the Riau traditional house on the material of quadrilaterals and triangles for class VII SMP that are valid, practical, and effective. The method used in this research is the development method using the Plomp model which consists of a preliminary analysis stage, a development stage, and an assessment stage. The test subjects in this study were seventh grade students of SMP N 2 Kampar Utara which consisted of 18 students and one mathematics teacher. The results of this study were to obtain an LKPD using the context of a Riau traditional house on valid, practical, and effective quadrilateral and triangle material. The results of the validation by the content expert validators obtained an overall score of 342 with an average of 3.42 which was included in the very valid category. And the results of the validation by the linguistic and cultural expert validators overall obtained a score of 117 with an average of 3.25 which was included in the very valid category. Based on the results of the practicality of the LKPD, the practical results at the One-to-One stage were 88.3% which were included in the very practical category. And at the Small Group stage, the practicality result was 87.3% in the very practical category. Furthermore, based on the results of effectiveness, it was found that the LKPD using the context of the Riau traditional house was effectively used which can be seen from the results of sig.(2-tailed) which is 0.000 where if the value of sig.(2-tailed) <0.05 then there is an effect on the action which is given. So it can be concluded that the LKPD using the context of the Riau traditional house is declared effective for use.

Abstrak

Kata kunci:
Pengembangan
LKPD
Segiempat dan Segitiga

Penelitian ini bertujuan untuk menghasilkan bahan ajar berupa LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga kelas VII SMP yang valid, praktis, dan efektif. Metode yang digunakan pada penelitian ini yaitu metode pengembangan dengan menggunakan model Plomp yang terdiri dari tahap analisis pendahuluan, tahap pengembangan, dan tahap penilaian. Subjek uji coba pada penelitian ini adalah siswa kelas VII SMP N 2 Kampar Utara yang teridiri dari 18 siswa dan satu orang guru matematika. Hasil penelitian ini yaitu mendapatkan sebuah LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga yang valid, praktis, dan efektif. Hasil validasi oleh validator ahli isi diperoleh skor keseluruhan 342 dengan rata-rata 3,42 yang termasuk kedalam kategori sangat valid. Dan hasil validasi oleh validator ahli bahasa dan budaya secara keseluruhan diperoleh skor 117 dengan rata-rata 3,25 yang termasuk kedalam kategori sangat valid. Berdasarkan hasil kepraktisan LKPD didapatkan hasil kepraktisan pada tahap *One-to-One* sebesar 88,3% yang termasuk kedalam kategori sangat praktis. Dan pada tahap *Small Group* didapatkan hasil kepraktisan sebesar 87,3% dalam kategori sangat praktis. Selanjutnya berdasarkan hasil efektifitas, didapatkan

Volume;issue;month;year
Received date month year; Received in revised form date month year; Accepted date month year; Available online date month year

hasil bahwasanya LKPD dengan menggunakan konteks rumah adat Riau efektif digunakan yang dapat dilihat dari hasil sig.(2-tailed) yaitu 0,000 dimana jika nilai sig.(2-tailed) $< 0{,}05$ maka terdapat pengaruh pada tindakan yang diberikan. Maka dapat disimpulkan bahwasanya LKPD dengan menggunakan konteks rumah adat Riau dinyatakan efektif untuk digunakan.

PENDAHULUAN

Pendidkan merupakan terwujudnya suatu proses pembelajaran yang mengusahakan siswa untuk aktif dalam mengembangkan diri agar memiliki pengetahuan yang dapat mengubah sikap dan tingkah laku terpelajar serta meningkatkan daya saing. Salah satu bidang ilmu yang berperan penting dalam dunia pendidikan adalah matematika. Matematika merupakan ilmu pasti yang menjadi dasar segala ilmu yang dipelajari. Matematika berperan penting dalam dunia pendidikan dan perkembangan tegnologi (Wandari et al., 2018). Matematika memiliki peran penting dalam kehidupan sehari-hari, dimana hampir semua yang ada disekitar kita berkaitan dengan matematika termasuk budaya masyarakat (Rewatus et al., 2020). Menyadari pentingnya peranan matematika, maka mengoptimalkan hasil belajar matematika siswa disetiap jenjang pendidikan perlu mendapat perhatian yang sungguh-sungguh agar tujuan pendidikan nasional dapat tercapai (Astuti & Sari, 2017).

Pembelajaran matematika lebih hidup dan menyenangkan apabila terdapat suatu inovasi yang baru didalamnya. Salah satu aspek yang dapat dikembangkan untuk inovasi pembelajaran terebut adalah budaya setempat atau disebut juga dengan kearifan lokal. Budaya atau kearifan lokal sebagai bagian dari budaya Indonesia yang kaya akan keragaman dan kemajemukannya yang saat ini dipertanyakan eksistensinya (Zulfah & Insani, 2020). Dengan adanya pengaruh budaya dari luar sedikit demi sedikit mulai melupakan budayanya sendiri yang seharusnya tetap dilestarikan. Melihat kenyataan bahwa masyarakat Indonesia saat ini lebih memilih kebudayaan yang mereka anggap lebih menarik ataupun lebih unik dan praktis. Kebudayaan lokal banyak yang luntur akibat dari kurangnya generasi penerus yang memiliki minat untuk belajar dan mewarisinya (Nahak, 2019).

Salah satu faktor penyebabnya adalah pembelajaran yang dilakasanakan masih berorientasi pada pendidik di sekolah. Hal ini terjadi karena minimnya pengetahuan peserta didik terhadap berbagai manfaat ilmu matematika yang erat kaitannya dengan budaya. Dalam usaha mengatasi problematika tersebut, peran pendidik pada penyelenggaraan pembelajaran sangat penting. Pendidik harus mempersiapkan perangkat pembelajaran yang baik dan sesuai dengan materi serta kondisi peserta didik seperti bahan ajar. Rewatus et al.,(2020: 646) menyatakan bahwa cara yang bisa dilakukan guru dalam proses pengembangan bahan ajar antara lain dengan menggunakan pendekatan dalam proses pengembangan bahan ajarnya, yang sesuai dengan materi yang akan disampaikan. Salah satu bahan ajar yang bisa dikembangkan oleh guru adalah Lembar Kerja Peserta Didik atau disingkat dengan LKPD.

LKPD adalah salah satu bahan ajar cetak yang dapat digunakan untuk mempermudah peseta didik untuk memahami materi yang diberikan. Melalui LKPD Peserta didik juga dapat dibimbing untuk menemukan kembali suatu konsep. LKPD dapat mempermudah guru dalam melaksanakan proses pembelajaran (Zulfah, 2020). LKPD bukan hanya berisi soal-soal tetapi juga berisi materi, uraian, dan latihan yang harus dikerjakan oleh peserta didik (Wandari et al., 2018). Pengembangan LKPD sangat diperlukan dalam dunia pendidikan. LKPD diharapkan mampu memenuhi karakteristik kurikulum 2013 yaitu meningkatkan kesetaraan antara perkembangan sikap spiritual dan sosial, rasa ingin tahu, kreativitas, kerja sama dengan kemampuan intelektual dan psikomotor.

LKPD dengan menggunakan konteks rumah adat Riau dirancang dengan mengintegrasikan berbagai bentuk yang terdapat pada rumah adat Riau kedalam mata pelajaran untuk memperkenalkan kepada peseta didik bentuk-bentuk rumah adat Riau yang harus dilestarikan. Menurut Ayunda & Jelita

(2020: 71) nilai-nilai yang terdapat pada LKPD dapat menjadi pijakan untuk mengembangkan sebuah pembelajaran. Namun, pada saat ini masih sangat sedikit sekolah-sekolah menerapkan pembelajaran dengan menggunkan konteks budaya. Sehingga peserta didik kurang mengetahui budaya yang ada di daerahnya.

Beberapa penelitian telah dilakukan, Wandari et al., (2018: 54) menyatakan bahwa dengan memasukkan budaya kedalam pembelajaran matematika siswa dapat memahami pembelajaran matematika dengan mudah dan asyik. Siswa dapat mengetahui lebih banyak tentang budaya daerahnya sendiri. Selain itu LKPD berbasis budaya layak untuk digunakan dan mendapat respon positif dari peserta didik serta hasil belajar peserta didik meningkat.

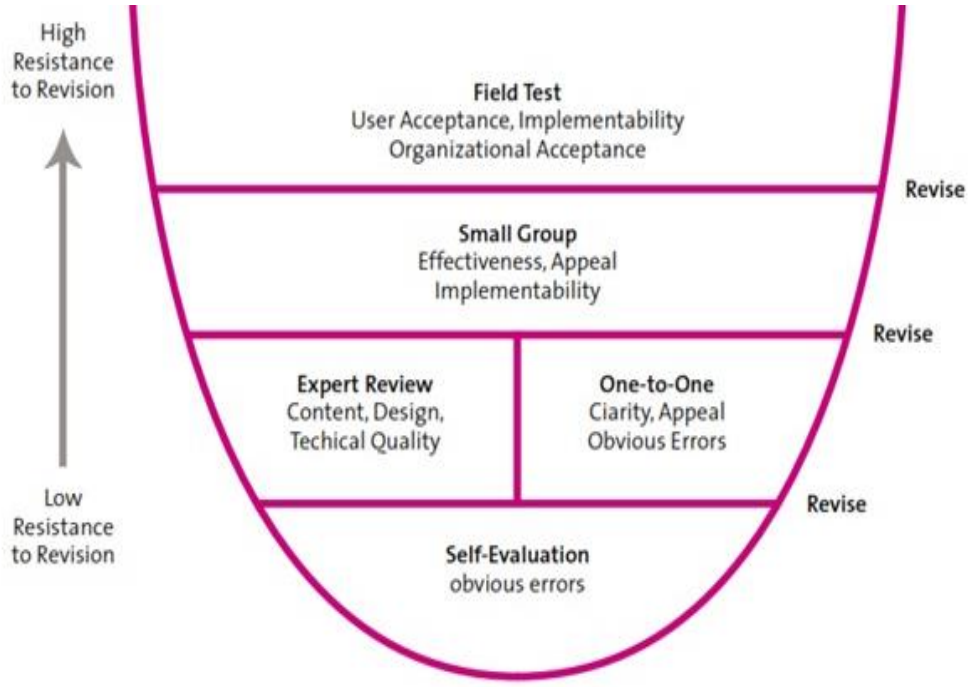
Menurut Disnawati & Nahak (2019: 77) lembar kerja siswa berbasis budaya dapat meningkatkan pemahaman siswa, LKS yang dikembangkan juga mendapat respon positif dari siswa dimana mereka lebih termotivasi untuk belajar matematika karena ada unsur budaya didalamnya. Selanjutnya Rewatus et al., (2020: 655) menyatakan bahwa kesulitan peserta didik dalam menghubungkan matematika dengan kehidupan nyata menjadikan faktor utama pentingnya pembelajaran berbasis budaya. Pengembangan LKPD berbasis budaya layak digunakan peserta didik dalam proses pembelajaran dan diharapkan dapat meningkatkan keaktifan siswa dalam pembelajaran matematika. Pendidikan dan budaya merupakan satu kesatuan yang tidak dapat dipisahkan. Pembelajaran berbasis budaya adalah pembelajaran yang memungkinkan guru dan siswa berpartisipasi aktif berdasarkan yang sudah mereka kenal, sehingga didapatkan hasil belajar yang optimal. Selain itu pembelajaran berbasis budaya tentunya akan memberikan pengenalan dan pemahaman terhadap peserta didik mengenai budaya yang ada di lingkungan sekitar sehingga dapat memberikan pengaruh positif terhadap penanaman karakter siswa yang berbudaya luhur (Ayuningtyas & Setiana, 2019).

Konteks budaya Rumah Adat Riau ini diambil karena rumah adat merupakan salah satu identitas budaya Riau yang harus dilestarikan. Pada bangunan rumah adat terdapat konsep matematika yang sesuai dengan materi Segiempat dan Segitiga diantaranya, Persegi, Segitiga, Trapesium, persegi Panjang dan yang lainnya. Adapun beberapa bagian bentuk bangunannya yaitu bentuk perabung bumbung atap bagian depan berbentuk Segitiga dan Trapezium, pada bentuk atap samping kiri dan kanan berbentuk Jajar Genjang, pada bagian pintu berbentuk Persegi Panjang dan pada bentuk jendela rumah adat ada yang berbentuk Persegi dan Persegi Panjang. Dari beberapa bentuk bagian rumah adat tersebut dapat disimpulkan bahwasanya bangunan Rumah Adat Riau dapat dikaitkan dengan materi segiempat dan segitiga.

METODE

Penelitian ini menggunakan metode penelitian pengembangan (*Research and Development*). Menurut Sugiyono (2017) metode penelitian dan pengembangan adalah metode penelitian yang digunakan untuk menghasilkan produk tertentu dan menguji keefektifan produk tersebut. Pada penelitian ini, produk yang dihasilkan adalah LKPD dengan Menggunakan Konteks Rumah Adat Riau pada materi Segiempat dan Sgitiga kelas VII SMP. LKPD yang dihasilkan diharapkan dapat digunakan sebagai sumber belajar bagi peserta didik, baik secara individual maupun kelompok, dan untuk memahami materi segiempat dan segitiga dengan menggunakan konteks rumah adat Riau. Pada penelitian ini, model pengembangan yang digunakan diadaptasi dari model yang dikembangkan oleh Plom. Model Plom teridri dari tiga tahap, yaitu fase analisis pendahuluan (*Preliminary Research*), fase pengembangan atau prototype (*Development or Prototyping Phase*), dan fase penilaian (*Assesment Phase)* (Plomp & Nieveen, 2013). Pada fase pengembangan *prototype* (*Prototyping Phase*) dikembangkan serangkaian *prototype*. *Prototype* dievaluasi dengan mengacu

pada evaluasi formatif. Evaluasi formatif memiliki beberapa tahapan atau lapisan yang di ilustrasikan pada gambar 1.



Gambar 1. Lapisan-Lapisan Evaluasi Formatif Pengembangan Plomp (Zulfah, 2020)

Penelitian ini dilaksanakan di SMP N 2 Kampar Utara. Waktu penelitian ini dilaksanakan pada semester genap tahun ajaran 2020/2021 yang dimulai dari bulan Februari-Juni. Penelitian ini dilakukan di kelas VII SMP N 2 Kampar Utara. Prosedur penelitian berisi tentang Uraian langkah-langkah yang ditempuh dalam penelitian. Prosedur penelitian ini terdiri dari tiga tahap yaitu fase analisis pendahuluan, fase pengembangan atau pembuatan *prototype*, dan fase penilaian.

Tabel 1. Prosedur Penelitian

Fase	**Kriteria**	**Deskripsi Aktivitas**	**Instrumen**
Preliminary Research (Fase investigasi awal)	Penekanan pada validitas isi	Analisis kebutuhan, analisis kurikulum, analisis peserta didik, analisis konsep dan analisis bahan ajar yang telah ada	*Check list*
Development/ Prototyping Phase	Fokus pada validitas dan praktikalitas	Penilaian *prototype* dari segi kevalidan, yang dilakukan melalui *Self-Evaluation* dan *Expert Review*. Setelah direvisi sesuai standar kevalidan, maka dilanjutkan dengan penilaian praktikalitas *LKPD* yang dilakukan melalui *One-to-one Evaluation* dan *Small Group Evaluation*.	Lembar validasi, angket dan wawancara.
Assessment Phase (Fase Penilian)	Praktikalitas dan efektivitas	Menilai apakah produk tersebut telah praktis dan efektif melalui tahapan uji lapangan (*Field*	Angket, pedoman, wawancara,

		Test)	LKPD

Sumber: Zulfah (2020)

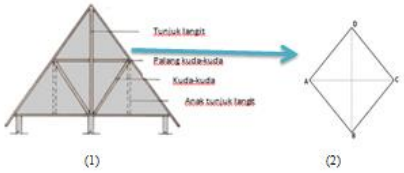
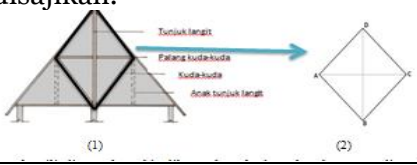
HASIL PENELITIAN DAN PEMBAHASAN

Hasil penelitian pengembangan lembar kerja peserta didik (LKPD) dengan Menggunakan Konteks Rumah Adat Riau pada Materi Segiempat dan Segitiga Kelas VII SMP dapat dilihat dari hasil analisis pendahuluan (*Preliminary Research*), hasil tahap pengembangan **(***Prototyping Phase*), dan Hasil tahap penilaian (*Assesment Phase*). Pada hasil analisis pendahuluan (*Preliminary Research*), *Prototype* berupa LKPD dengan Menggunakan Konteks Rumah Adat Riau disusun berdasarkan analisis pendahuluan atau investigasi awal. Tahap *Preliminary reseach* ini bertujuan untuk mengetahui syarat-syarat pembelajaran yang dibutuhkan dalam mengembangkan *prototype*. Pada tahap ini dilakukan kegiatan analisis pendahuluan yang dimulai dengan melakukan kegiatan analisis kebutuhan, analisis karakteristik peserta didik, analisis kurikulum dan analisis konsep. Analisis ini dilaksanakan dengan tujuan untuk menghasilkan *prototype* pertama yang dibutuhkan oleh peserta didik maupun guru.

Tahap pengembangan **(***Prototyping Phase*), LKPD dengan menggunakan konteks rumah adat Riau dirancang berdasarkan kompetensi inti dan kompetensi dasar agar tercapainya tujuan pembelajaran secara obtimal. Lembar kerja peserta didik dengan menggunakan konteks rumah adat Riau yang dikembangkan sesuai dengan kriteria yang ditetapkan baik dari segi isi maupun bahasa dan kebudayaan. Pada tahap pengembangan ini, akan dilakukan tahap evaluasi sendiri yang akan menghasilkan *prototype* 1. Setelah melakukan evaluasi sendiri dan melakukan revisi terhadap LKPD dengan menggunakan konteks rumah adat Riau, maka akan dilakukan validasi terhadap LKPD oleh pakar (*Expert Review*). Validasi LKPD dilakukan untuk menentukan kelayakan suatu produk yang dikembangkan. Validasi LKPD dilakukan oleh 8 orang pakar yang terdir dari 5 orang dosen matematika dan 3 orang dosen bahasa dan budaya. Berdasarkan hasil validasi, oleh validator, terdapat beberapa komentar dan saran dari validator guna untuk melakukan revisi LKPD seperti pada table 2 di bawah ini.

Tabel 2. Komentar dan Saran Validator Terhadap LKPD dengan Menggunakan Konteks Rumah Adat Riau pada Materi Segiempat dan Segitiga

No.	Saran Perbaikan	Setelah Revisi
Aspek Isi dan Kegrafikan		
1.	Perbaiki letak Konteks yang digunakan pada cover, jangan letakkan dibagian bawah, letakkan dibagian atas agar lebih kelihatan konteks apa yang digunakan. 	Dilakukan perbaikan pada tata letak judul pada cover. 
2.	Buat tahapan-tahapan pada gambar yg	Dilakukan perbaikan terhadap tahapan gambar

	digunakan	yang digunakan
3.	Jika menggunakan gambar buatlah tanda garis sesuai dengan bentuk bangun datar yang digunakan 	Melakukan perbaikan pada urutan gambar dengan memberikan tanda berupa garis berwarna agar lebih kelihatan bangun apa yang disajikan. 
Aspek Bahasa dan Kebudayaan		
1.	Perbaiki penulisan yang salah	Dilakukan perbaikan terhadap penulisan yang masih salah
2.	Perhatikan EYD	Dilakukan perbaikan terhdap EYD
3.	Jenis huruf dan tata letak tidak konsisten	Dilakukan perbaikan terhadap jenis huruf dan tata letak huruf
4.	Lengkapi kalimat yang tidak lengkap misalnya kalimat pada soal nomor satu. 	Dilakukan penambahan kalimat yang tepat pada soal nomor satu dan pada kalimat yang lainnya. 

Berdasarkan saran-saran tersebut di atas dilakukan revisi terhadap LKPD dengan menggunakan konteks rumah adat Riau. Setelah dilakukan revisi, para validator selanjutnya memberikan penilaian terhadap validitas LKPD Menggunakan Konteks Rumah Adat Riau. Berdasarkan penilaian 8 validator ahli, yaitu 5 validator ahli isi dan kegrafikan serta 3 validator ahli bahasa dan kebudayaan, diperoleh hasil bahwa secara umum keseluruhan Lembar Kerja Peserta Didik dengan menggunakan konteks rumah adat Riau dinyatakan sangat valid dengan rata-rata kevalidan pada aspek isi 3,6 dengan kategori sangat valid, dan pada aspek bahasa dan kebudayaan dengan rata-rata kevalidan 3,5 dengan kategori sangat valid. Selanjutnya, pada tahap praktikalitas dilakukan uji coba LKPD dengan menggunakan konteks rumah adat Riau kepada peserta didik yang terdiri 3 orang peserta didik pada tahap *One-to-One Evaluation* dan 6 Orang peserta didik pada tahap *Small Group Evaluation* serta praktikalitas oleh satu orang guru matematika. Berdasarkan hasil evaluasi pada tahap *One-to-One* diperoleh nilai persentase yaitu 87,5% dengan kategori sangat praktis. Pada tahap *Small Group* didapatkan nilai persentase 87,6% dengan kategori sangat paraktis. Dan pada hasil penilaian angket oleh guru didapatkan hasil persentase 87, 5% dengan kategori sangat praktis. Dari ketiga tahap penilaian praktikalitas tersebut, dapat disimpulkan bahwa LKPD dengan menggunakan konteks rumah adat Riau telah dinyatakan praktis dan layak untuk digunakan.

Setelah selesai dilakukan beberapa tahapan sebelumnya yaitu validitas dan praktikalitas, selanjutnya adalah uji lapangan (*Field Test*). Tahap ini merupakan tahap penilaian (*Assessment Phase),* tujuannya ialah untuk mengetahui sejauh mana efektivitas LKPD dengan menggunakan konteks rumah adat Riau yang dikembangkan. Efektivitas suatu produk diukur untuk melihat ada atau tidaknya efek atau pengaruh LKPD yang dikembangkan terhadap pengguna. LKPD dengan menggunakan konteks rumah adat Riau yang telah valid, dan praktis, selanjutnya diujicobakan melalui penelitian *Quasi Eksperimen* guna untuk melihat efektifitas dari LKPD dengan menggunakan konteks rumah adat Riau terhadap kemampuan pemahaan konsep matematis peserta didik yang

menggunakan LKPD dengan menggunakan konteks rumah adat Riau dengan yang tidak menggunakan LKPD dengan menggunakan konteks Rumah Adat Riau. Sesuai dengan penelitian tersebut, maka penelitian menggunakan dua kelas yaitu kelas eksperimen dan kelas kontrol. Kelas eksperimen adalah kelas yang sengaja diberi perlakuan yaitu penggunaan LKPD dengan menggunakan konteks rumah adat Riau dalam pembelajarannya. Sedangkan kelas control dilaksanakan tanpa menggunakan LKPD dengan menggunakan konteks rumah adat Riau. Untuk melihat efektifitas LKPD ini dilakukan Post-Test pada kelas eksperimen dan kelas kontrol. Dari hasil Post-Test, sebelum melakukan uji kesamaan rata-rata terlebih dahulu dilakukan uji prasyarat yaitu terlebih dahulu melakukan uji normalitas. Adapun hasil uji Normalitas dari kelas eksperimen dan kelas control terdapat terdapat pada tabel 3.

Tabel 3. Uji Normalitas Data Tes Kemampuan Pemahaman Konsep Pesertas Didik

Tests of Normality

Kelas		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil Belajar Siswa	Post-Test Ekperimen	.250	18	.004	.776	18	.001
	Post-Test Kontrol	.121	18	.200*	.888	18	.035

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Berdasarkan hasil uji normalitas di atas, diketahui nilai signifikansi (Sig) untuk data baik dari uji Kolmogorov-Smirnov maupun uji Shapiro-Wilk dapat disimpulkan bahwa nilai signifikansi untuk kelas eksperimen dengan nilai sig.< 0,05 maka data tidak berdistribusi normal. Sedangkan untuk kelas kontrol, disimpulkan bahwa nilai signifikansinya yaitu sig. > 0,05 maka data dinyatakan berdistribusi normal. Karena adanya kelas yang tidak berdistribusi normal, maka akan digunakan uji Mann-Whitney untuk melihat ada atau tidaknya pengaruh LKPD dengan menggunakan konteks rumah adat Riau pada kemampuan pemahaman konsep matematis peserta didik. Adapun hasil uji efetifitas Man-Whitney terdapat pada tabel 4.

Tabel 4. Hasil uji efektifitas Man-Whitney

Test Statistics[a]

	Hasil Belajar Siswa
Mann-Whitney U	42.500
Wilcoxon W	213.500
Z	-3.828
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.)]	.000[b]

a. Grouping Variable: Kelas

b. Not corrected for ties.

Berdasarkan hasil uji Man-Whitney diperoleh bahwa nilai asymp.sig.(2-tailed) yaitu sebesar 0,000. Hal ini, jika nilai asymp.sig.(2-tailed) < 0.05, maka dapat disimpulkan bahwa hipotesis

diterima. Dengan demikian dapat dikatakan bahwa ada perbedaan hasil belajar siswa antara kelas eksperimen yang diberi perlakukan menggunakan LKPD dengan menggunakan konteks rumah adat Riau dengan kelas kontrol yang tidak diberikan perlakuan menggunakan LKPD dengan menggunakan konteks rumah adat Riau. Dengan demikian, maka dapat disimpulkan bahwa LKPD dengan menggunakan konteks Rumah adat Riau efektif digunakan untuk meningakatkan pemahaman konsep matematis peserta didik.

SIMPULAN

Penelitian pengembangan LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga ini bertujuan untuk menghasilkan bahan ajar berupa LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga kelas VII SMP yang valid, praktis, dan efektif. Metode yang digunakan pada penelitian ini yaitu metode pengembangan dengan menggunakan model Plomp yang terdiri dari tahap analisis pendahuluan, tahap pengembangan, dan tahap penilaian. Subjek uji coba pada penelitian ini adalah siswa kelas VII SMP N 2 Kampar Utara. Instrumen yang digunakan pada penelitian ini adalah lembar angket dan wawancara. Angket ditujukan kepada validator ahli isi dan kegrafikan, da validator ahli bahasa dan budaya serta subjek uji coba sebanyak 18 siswa dan satu orang guru mata pelajaran matematika. Hasil penelitian ini yaitu mendapatkan sebuah LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga yang valid, praktis, dan efektif. Hasil validasi oleh validator ahli isi dan kegrafikan terhadap LKPD dengan menggunakan konteks rumah adat Riau diperoleh skor keseluruhan 342 dengan rata-rata 3,42 yang termasuk kedalam kategori sangat valid. Dan hasil validasi oleh validator ahli bahasa dan budaya secara keseluruhan diperoleh skor 117 dengan rata-rata 3,25 yang termasuk kedalam kategori sangat valid. Berdasarkan hasil kepraktisan LKPD dengan menggunakan konteks rumah adat Riau didapatkan hasil kepraktisan pada tahap *One-to-One* sebesar 88,3% yang termasuk kedalam kategori sangat praktis. Dan pada tahap *Small Group* didapatkan hasil kepraktisan sebesar 87,3% dalam kategori sangat praktis. Selanjutnya berdasarkan hasil efektifitas, didapatkan hasil bahwasanya LKPD dengan menggunakan konteks rumah adat Riau efektif digunakan yang dapat dilihat dari hasil sig.(2-tailed) yaitu 0,000 dimana jika nilai sig.(2-tailed) $< 0{,}05$ maka terdapat pengaruh pada tindakan yang diberikan. Maka dapat disimpulkan bahwasanya LKPD dengan menggunakan konteks rumah adat Riau dinyatakan efektif untuk digunakan.

DAFTAR PUSTAKA

Astuti, A., & Sari, N. (2017). Pengembangan Lembar Kerja Siswa (Lks) Pada Mata Pelajaran Matematika Siswa Kelas X Sma. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *1*(2), 13–24. https://doi.org/10.31004/cendekia. v1i2.16

Ayunda, F., & Jelita, L. (2020). Pengembangan lembar kerja peserta didik (LKPD) berbasis kearifan lokal untuk siswa sekolah dasar. *Sekolah PGSD FIP UNIMED*, *4*(4), 70–77.

Ayuningtyas, A. D., & Setiana, D. S. (2019). Pengembangan Bahan Ajar Matematika Berbasis Etnomatematika Kraton Yogyakarta. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *8*(1), 11–19. https://doi.org/10.24127/ajpm.v8i1.1630

Nahak, H. (2019). Upaya Melestarikan Budaya Indonesia si Ers Globalisasi. *Jurnal Sosiologi Nusantara*, *5*(1), 65–76. https://doi.org/10.33369/jsn.5.1.65-76

Plomp, T., & Nieveen, N. (2013). *An Introduction to Educational Design Research*. Enschede: Netherland Institute for Curriculum Development (SLO).

Rewatus, A., Leton, S. I., Fernandez, A. J., & Suciati, M. (2020). Pengembangan Lembar Kerja Peserta Didik Berbasis Etnomatematika Pada Materi Segitiga dan Segiempat. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 645–656. https://doi.org/10.31004/cendekia.v4i2.276

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R & D*. Bandung: Alfabeta, CV.

Zulfah. (2020). *Pengembangan Lembar Kerja Peserta Didik Berbasis Problem Based Learning*. Sukabumi : Haura Publishing.

Zulfah, Z., & Insani, S. U. (2020). Pengembangan Soal Matematika Berbasis Kearifan Lokal dan Daya Tarik Wisata Riau Pada Tahap Preliminary Research. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 797–799. https://doi.org/10.31004/cendekia.v4i2.311

Contents list avaliable at Directory of Open Access Journals (DOAJ)
Al-Ishlah: Jurnal Pendidikan
ISSN: 2087-9490 (Printed); 2597-940X (Online)
Journal Homepage: http://www.journal.staihubbulwathan.id/index.php/alishlah

Development of Student Worksheets Using the Context of Riau Traditional Houses on Quadrilaterals and Triangles

DOI:

Commented [A1]: -Terjemahkan artikel kedalam bahasa Inggris
-Cek kesesuaian artikel dengan template dan author guideline dari Jurnal Al-Ishlah

Info Artikel

Keywords:
Development
LKPD
Square and Triangle

Abstract

This study aims to produce teaching materials in the form of LKPD using the context of the Riau traditional house on the material of quadrilaterals and triangles for class VII SMP that are valid, practical, and effective. The method used in this research is the development method using the Plomp model which consists of a preliminary analysis stage, a development stage, and an assessment stage. The test subjects in this study were seventh grade students of SMP N 2 Kampar Utara which consisted of 18 students and one mathematics teacher. The results of this study were to obtain an LKPD using the context of a Riau traditional house on valid, practical, and effective quadrilateral and triangle material. The results of the validation by the content expert validators obtained an overall score of 342 with an average of 3.42 which was included in the very valid category. And the results of the validation by the linguistic and cultural expert validators overall obtained a score of 117 with an average of 3.25 which was included in the very valid category. Based on the results of the practicality of the LKPD, the practical results at the One-to-One stage were 88.3% which were included in the very practical category. And at the Small Group stage, the practicality result was 87.3% in the very practical category. Furthermore, based on the results of effectiveness, it was found that the LKPD using the context of the Riau traditional house was effectively used which can be seen from the results of sig.(2-tailed) which is 0.000 where if the value of sig.(2-tailed) <0.05 then there is an effect on the action which is given. So it can be concluded that the LKPD using the context of the Riau traditional house is declared effective for use.

Commented [A2]: - Cek kembali jumlah kata sesuai author guideline
Idealnya abstrak anda mencakup
- overview of the study;
- aim of the study;
- reason for the study
- methodology used in the study;
- findings of the study.

Kata kunci:
Pengembangan
LKPD
Segiempat dan Segitiga

Abstrak

Penelitian ini bertujuan untuk menghasilkan bahan ajar berupa LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga kelas VII SMP yang valid, praktis, dan efektif. Metode yang digunakan pada penelitian ini yaitu metode pengembangan dengan menggunakan model Plomp yang terdiri dari tahap analisis pendahuluan, tahap pengembangan, dan tahap penilaian. Subjek uji coba pada penelitian ini adalah siswa kelas VII SMP N 2 Kampar Utara yang teridiri dari 18 siswa dan satu orang guru matematika. Hasil penelitian ini yaitu mendapatkan sebuah LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga yang valid, praktis, dan efektif. Hasil validasi oleh validator ahli isi diperoleh skor keseluruhan 342 dengan rata-rata 3,42 yang termasuk kedalam kategori sangat valid. Dan hasil validasi oleh validator ahli bahasa dan budaya secara keseluruhan diperoleh skor 117 dengan rata-rata 3,25 yang termasuk kedalam kategori sangat valid. Berdasarkan hasil kepraktisan LKPD didapatkan hasil kepraktisan pada tahap *One-to-One* sebesar 88,3% yang termasuk kedalam kategori sangat praktis. Dan pada tahap *Small Group* didapatkan hasil kepraktisan sebesar 87,3% dalam kategori sangat praktis. Selanjutnya berdasarkan hasil efektifitas, didapatkan

Volume;issue;month;year
Received date month year; Received in revised form date month year; Accepted date month year; Available online date month year

hasil bahwasanya LKPD dengan menggunakan konteks rumah adat Riau efektif digunakan yang dapat dilihat dari hasil sig.(2-tailed) yaitu 0,000 dimana jika nilai sig.(2-tailed) $< 0{,}05$ maka terdapat pengaruh pada tindakan yang diberikan. Maka dapat disimpulkan bahwasanya LKPD dengan menggunakan konteks rumah adat Riau dinyatakan efektif untuk digunakan.

PENDAHULUAN

Pendidkan merupakan terwujudnya suatu proses pembelajaran yang mengusahakan siswa untuk aktif dalam mengembangkan diri agar memiliki pengetahuan yang dapat mengubah sikap dan tingkah laku terpelajar serta meningkatkan daya saing. Salah satu bidang ilmu yang berperan penting dalam dunia pendidikan adalah matematika. Matematika merupakan ilmu pasti yang menjadi dasar segala ilmu yang dipelajari. Matematika berperan penting dalam dunia pendidikan dan perkembangan tegnologi (Wandari et al., 2018). Matematika memiliki peran penting dalam kehidupan sehari-hari, dimana hampir semua yang ada disekitar kita berkaitan dengan matematika termasuk budaya masyarakat (Rewatus et al., 2020). Menyadari pentingnya peranan matematika, maka mengoptimalkan hasil belajar matematika siswa disetiap jenjang pendidikan perlu mendapat perhatian yang sungguh-sungguh agar tujuan pendidikan nasional dapat tercapai (Astuti & Sari, 2017).

Pembelajaran matematika lebih hidup dan menyenangkan apabila terdapat suatu inovasi yang baru didalamnya. Salah satu aspek yang dapat dikembangkan untuk inovasi pembelajaran terebut adalah budaya setempat atau disebut juga dengan kearifan lokal. Budaya atau kearifan lokal sebagai bagian dari budaya Indonesia yang kaya akan keragaman dan kemajemukannya yang saat ini dipertanyakan eksistensinya (Zulfah & Insani, 2020). Dengan adanya pengaruh budaya dari luar sedikit demi sedikit mulai melupakan budayanya sendiri yang seharusnya tetap dilestarikan. Melihat kenyataan bahwa masyarakat Indonesia saat ini lebih memilih kebudayaan yang mereka anggap lebih menarik ataupun lebih unik dan praktis. Kebudayaan lokal banyak yang luntur akibat dari kurangnya generasi penerus yang memiliki minat untuk belajar dan mewarisinya (Nahak, 2019).

Salah satu faktor penyebabnya adalah pembelajaran yang dilakasanakan masih berorientasi pada pendidik di sekolah. Hal ini terjadi karena minimnya pengetahuan peserta didik terhadap berbagai manfaat ilmu matematika yang erat kaitannya dengan budaya. Dalam usaha mengatasi problematika tersebut, peran pendidik pada penyelenggaraan pembelajaran sangat penting. Pendidik harus mempersiapkan perangkat pembelajaran yang baik dan sesuai dengan materi serta kondisi peserta didik seperti bahan ajar. Rewatus et al.,(2020: 646) menyatakan bahwa cara yang bisa dilakukan guru dalam proses pengembangan bahan ajar antara lain dengan menggunakan pendekatan dalam proses pengembangan bahan ajarnya, yang sesuai dengan materi yang akan disampaikan. Salah satu bahan ajar yang bisa dikembangkan oleh guru adalah Lembar Kerja Peserta Didik atau disingkat dengan LKPD.

LKPD adalah salah satu bahan ajar cetak yang dapat digunakan untuk mempermudah peseta didik untuk memahami materi yang diberikan. Melalui LKPD Peserta didik juga dapat dibimbing untuk menemukan kembali suatu konsep. LKPD dapat mempermudah guru dalam melaksanakan proses pembelajaran (Zulfah, 2020). LKPD bukan hanya berisi soal-soal tetapi juga berisi materi, uraian, dan latihan yang harus dikerjakan oleh peserta didik (Wandari et al., 2018). Pengembangan LKPD sangat diperlukan dalam dunia pendidikan. LKPD diharapkan mampu memenuhi karakteristik kurikulum 2013 yaitu meningkatkan kesetaraan antara perkembangan sikap spiritual dan sosial, rasa ingin tahu, kreativitas, kerja sama dengan kemampuan intelektual dan psikomotor.

LKPD dengan menggunakan konteks rumah adat Riau dirancang dengan mengintegrasikan berbagai bentuk yang terdapat pada rumah adat Riau kedalam mata pelajaran untuk memperkenalkan kepada peseta didik bentuk-bentuk rumah adat Riau yang harus dilestarikan. Menurut Ayunda & Jelita

(2020: 71) nilai-nilai yang terdapat pada LKPD dapat menjadi pijakan untuk mengembangkan sebuah pembelajaran. Namun, pada saat ini masih sangat sedikit sekolah-sekolah menerapkan pembelajaran dengan menggunkan konteks budaya. Sehingga peserta didik kurang mengetahui budaya yang ada di daerahnya.

Beberapa penelitian telah dilakukan, Wandari et al., (2018: 54) menyatakan bahwa dengan memasukkan budaya kedalam pembelajaran matematika siswa dapat memahami pembelajaran matematika dengan mudah dan asyik. Siswa dapat mengetahui lebih banyak tentang budaya daerahnya sendiri. Selain itu LKPD berbasis budaya layak untuk digunakan dan mendapat respon positif dari peserta didik serta hasil belajar peserta didik meningkat.

Menurut Disnawati & Nahak (2019: 77) lembar kerja siswa berbasis budaya dapat meningkatkan pemahaman siswa, LKS yang dikembangkan juga mendapat respon positif dari siswa dimana mereka lebih termotivasi untuk belajar matematika karena ada unsur budaya didalamnya. Selanjutnya Rewatus et al., (2020: 655) menyatakan bahwa kesulitan peserta didik dalam menghubungkan matematika dengan kehidupan nyata menjadikan faktor utama pentingnya pembelajaran berbasis budaya. Pengembangan LKPD berbasis budaya layak digunakan peserta didik dalam proses pembelajaran dan diharapkan dapat meningkatkan keaktifan siswa dalam pembelajaran matematika. Pendidikan dan budaya merupakan satu kesatuan yang tidak dapat dipisahkan. Pembelajaran berbasis budaya adalah pembelajaran yang memungkinkan guru dan siswa berpartisipasi aktif berdasarkan yang sudah mereka kenal, sehingga didapatkan hasil belajar yang optimal. Selain itu pembelajaran berbasis budaya tentunya akan memberikan pengenalan dan pemahaman terhadap peserta didik mengenai budaya yang ada di lingkungan sekitar sehingga dapat memberikan pengaruh positif terhadap penanaman karakter siswa yang berbudaya luhur (Ayuningtyas & Setiana, 2019).

Konteks budaya Rumah Adat Riau ini diambil karena rumah adat merupakan salah satu identitas budaya Riau yang harus dilestarikan. Pada bangunan rumah adat terdapat konsep matematika yang sesuai dengan materi Segiempat dan Segitiga diantaranya, Persegi, Segitiga, Trapesium, persegi Panjang dan yang lainnya. Adapun beberapa bagian bentuk bangunannya yaitu bentuk perabung bumbung atap bagian depan berbentuk Segitiga dan Trapezium, pada bentuk atap samping kiri dan kanan berbentuk Jajar Genjang, pada bagian pintu berbentuk Persegi Panjang dan pada bentuk jendela rumah adat ada yang berbentuk Persegi dan Persegi Panjang. Dari beberapa bentuk bagian rumah adat tersebut dapat disimpulkan bahwasanya bangunan Rumah Adat Riau dapat dikaitkan dengan materi segiempat dan segitiga.

Commented [A3]: -Latar belakang penelitian terlalu general dan belum menunjukan apa urgensi dan esensi dilakukannya penelitian ini. Disarankan untuk mengangkat isu sentral yang menjadi duduk permasalahan atau hal sentral yang melatarbelakangi pentingnya dilakuka penelitian ini.
-Perlu ada dukungan teori dan temuan empiris sebagai bukti penguat argument.

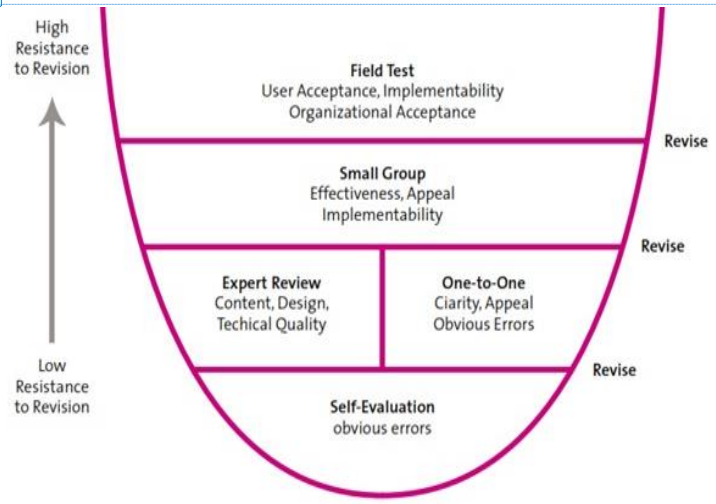
Commented [A4]: Gunakan teori utama dari penelitian dan pengembangan

METODE

Penelitian ini menggunakan metode penelitian pengembangan (*Research and Development*). Menurut Sugiyono (2017) metode penelitian dan pengembangan adalah metode penelitian yang digunakan untuk menghasilkan produk tertentu dan menguji keefektifan produk tersebut. Pada penelitian ini, produk yang dihasilkan adalah LKPD dengan Menggunakan Konteks Rumah Adat Riau pada materi Segiempat dan Sgitiga kelas VII SMP. LKPD yang dihasilkan diharapkan dapat digunakan sebagai sumber belajar bagi peserta didik, baik secara individual maupun kelompok, dan untuk memahami materi segiempat dan segitiga dengan menggunakan konteks rumah adat Riau. Pada penelitian ini, model pengembangan yang digunakan diadaptasi dari model yang dikembangkan oleh Plom. Model Plom teridri dari tiga tahap, yaitu fase analisis pendahuluan (*Preliminary Research*), fase pengembangan atau prototype (*Development or Prototyping Phase*), dan fase penilaian (*Assesment Phase)* (Plomp & Nieveen, 2013). Pada fase pengembangan *prototype* (*Prototyping Phase*) dikembangkan serangkaian *prototype*. *Prototype* dievaluasi dengan mengacu

pada evaluasi formatif. Evaluasi formatif memiliki beberapa tahapan atau lapisan yang di ilustrasikan pada gambar 1.

Commented [A5]: Disarankan untuk
-Menjelaskan prosedur pengumpulan data
-Menjelaskan sampel/partisipan
-Menjelaskan instrumen penelitian
-Menjelaskan prosedur pengumpulan data
-Membenarkan prosedur pengumpulan data
-Menjelaskan prosedur analisis data
-Menceritakan kembali prosedur analisis data



Gambar 1. Lapisan-Lapisan Evaluasi Formatif Pengembangan Plomp (Zulfah, 2020)

Penelitian ini dilaksanakan di SMP N 2 Kampar Utara. Waktu penelitian ini dilaksanakan pada semester genap tahun ajaran 2020/2021 yang dimulai dari bulan Februari-Juni. Penelitian ini dilakukan di kelas VII SMP N 2 Kampar Utara. Prosedur penelitian berisi tentang Uraian langkah-langkah yang ditempuh dalam penelitian. Prosedur penelitian ini terdiri dari tiga tahap yaitu fase analisis pendahuluan, fase pengembangan atau pembuatan *prototype*, dan fase penilaian.

Tabel 1. Prosedur Penelitian

Fase	**Kriteria**	**Deskripsi Aktivitas**	**Instrumen**
Preliminary Research (Fase investigasi awal)	Penekanan pada validitas isi	Analisis kebutuhan, analisis kurikulum, analisis peserta didik, analisis konsep dan analisis bahan ajar yang telah ada	*Check list*
Development/ Prototyping Phase	Fokus pada validitas dan praktikalitas	Penilaian *prototype* dari segi kevalidan, yang dilakukan melalui *Self-Evaluation* dan *Expert Review*. Setelah direvisi sesuai standar kevalidan, maka dilanjutkan dengan penilaian praktikalitas *LKPD* yang dilakukan melalui *One-to-one Evaluation* dan *Small Group Evaluation*.	Lembar validasi, angket dan wawancara.
Assessment Phase (Fase Penilian)	Praktikalitas dan efektivitas	Menilai apakah produk tersebut telah praktis dan efektif melalui tahapan uji lapangan (*Field*	Angket, pedoman, wawancara,

		Test)	LKPD

Sumber: Zulfah (2020)

HASIL PENELITIAN DAN PEMBAHASAN

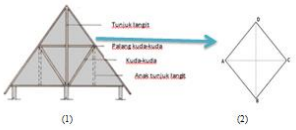
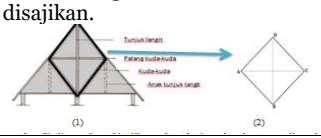
Hasil penelitian pengembangan lembar kerja peserta didik (LKPD) dengan Menggunakan Konteks Rumah Adat Riau pada Materi Segiempat dan Segitiga Kelas VII SMP dapat dilihat dari hasil analisis pendahuluan (*Preliminary Research*), hasil tahap pengembangan **(***Prototyping Phase*), dan Hasil tahap penilaian (*Assesment Phase*). Pada hasil analisis pendahuluan (*Preliminary Research*), *Prototype* berupa LKPD dengan Menggunakan Konteks Rumah Adat Riau disusun berdasarkan analisis pendahuluan atau investigasi awal. Tahap *Preliminary reseach* ini bertujuan untuk mengetahui syarat-syarat pembelajaran yang dibutuhkan dalam mengembangkan *prototype*. Pada tahap ini dilakukan kegiatan analisis pendahuluan yang dimulai dengan melakukan kegiatan analisis kebutuhan, analisis karakteristik peserta didik, analisis kurikulum dan analisis konsep. Analisis ini dilaksanakan dengan tujuan untuk menghasilkan *prototype* pertama yang dibutuhkan oleh peserta didik maupun guru.

Tahap pengembangan **(***Prototyping Phase*), LKPD dengan menggunakan konteks rumah adat Riau dirancang berdasarkan kompetensi inti dan kompetensi dasar agar tercapainya tujuan pembelajaran secara obtimal. Lembar kerja peserta didik dengan menggunakan konteks rumah adat Riau yang dikembangkan sesuai dengan kriteria yang ditetapkan baik dari segi isi maupun bahasa dan kebudayaan. Pada tahap pengembangan ini, akan dilakukan tahap evaluasi sendiri yang akan menghasilkan *prototype* 1. Setelah melakukan evaluasi sendiri dan melakukan revisi terhadap LKPD dengan menggunakan konteks rumah adat Riau, maka akan dilakukan validasi terhadap LKPD oleh pakar (*Expert Review*). Validasi LKPD dilakukan untuk menentukan kelayakan suatu produk yang dikembangkan. Validasi LKPD dilakukan oleh 8 orang pakar yang terdir dari 5 orang dosen matematika dan 3 orang dosen bahasa dan budaya. Berdasarkan hasil validasi, oleh validator, terdapat beberapa komentar dan saran dari validator guna untuk melakukan revisi LKPD seperti pada table 2 di bawah ini.

Commented [A6]: Idealnya dalam temuan penelitian dan pembahasan mencakup indikator-indikator dibawah ini:
1. informasi latar belakang;
2. laporan hasil;
3. komentar tentang hasil
4. interpretasi hasil
5. perbandingan dengan penelitian lain
6. penjelasan untuk hasil
7. evaluasi hasil
8. ringkasan hasil;

Tabel 2. Komentar dan Saran Validator Terhadap LKPD dengan Menggunakan Konteks Rumah Adat Riau pada Materi Segiempat dan Segitiga

No.	Saran Perbaikan	Setelah Revisi
Aspek Isi dan Kegrafikan		
1.	Perbaiki letak Konteks yang digunakan pada cover, jangan letakkan dibagian bawah, letakkan dibagian atas agar lebih kelihatan konteks apa yang digunakan. 	Dilakukan perbaikan pada tata letak judul pada cover. 
2.	Buat tahapan-tahapan pada gambar yg	Dilakukan perbaikan terhadap tahapan gambar

	digunakan	yang digunakan
3.	Jika menggunakan gambar buatlah tanda garis sesuai dengan bentuk bangun datar yang digunakan 	Melakukan perbaikan pada urutan gambar dengan memberikan tanda berupa garis berwarna agar lebih kelihatan bangun apa yang disajikan. 
Aspek Bahasa dan Kebudayaan		
1.	Perbaiki penulisan yang salah	Dilakukan perbaikan terhadap penulisan yang masih salah
2.	Perhatikan EYD	Dilakukan perbaikan terhdap EYD
3.	Jenis huruf dan tata letak tidak konsisten	Dilakukan perbaikan terhadap jenis huruf dan tata letak huruf
4.	Lengkapi kalimat yang tidak lengkap misalnya kalimat pada soal nomor satu. 	Dilakukan penambahan kalimat yang tepat pada soal nomor satu dan pada kalimat yang lainnya. 

Berdasarkan saran-saran tersebut di atas dilakukan revisi terhadap LKPD dengan menggunakan konteks rumah adat Riau. Setelah dilakukan revisi, para validator selanjutnya memberikan penilaian terhadap validitas LKPD Menggunakan Konteks Rumah Adat Riau. Berdasarkan penilaian 8 validator ahli, yaitu 5 validator ahli isi dan kegrafikan serta 3 validator ahli bahasa dan kebudayaan, diperoleh hasil bahwa secara umum keseluruhan Lembar Kerja Peserta Didik dengan menggunakan konteks rumah adat Riau dinyatakan sangat valid dengan rata-rata kevalidan pada aspek isi 3,6 dengan kategori sangat valid, dan pada aspek bahasa dan kebudayaan dengan rata-rata kevalidan 3,5 dengan kategori sangat valid. Selanjutnya, pada tahap praktikalitas dilakukan uji coba LKPD dengan menggunakan konteks rumah adat Riau kepada peserta didik yang terdiri 3 orang peserta didik pada tahap *One-to-One Evaluation* dan 6 Orang peserta didik pada tahap *Small Group Evaluation* serta praktikalitas oleh satu orang guru matematika. Berdasarkan hasil evaluasi pada tahap *One-to-One* diperoleh nilai persentase yaitu 87,5% dengan kategori sangat praktis. Pada tahap *Small Group* didapatkan nilai persentase 87,6% dengan kategori sangat paraktis. Dan pada hasil penilaian angket oleh guru didapatkan hasil persentase 87, 5% dengan kategori sangat praktis. Dari ketiga tahap penilaian praktikalitas tersebut, dapat disimpulkan bahwa LKPD dengan menggunakan konteks rumah adat Riau telah dinyatakan praktis dan layak untuk digunakan.

Setelah selesai dilakukan beberapa tahapan sebelumnya yaitu validitas dan praktikalitas, selanjutnya adalah uji lapangan (*Field Test*). Tahap ini merupakan tahap penilaian (*Assessment Phase),* tujuannya ialah untuk mengetahui sejauh mana efektivitas LKPD dengan menggunakan konteks rumah adat Riau yang dikembangkan. Efektivitas suatu produk diukur untuk melihat ada atau tidaknya efek atau pengaruh LKPD yang dikembangkan terhadap pengguna. LKPD dengan menggunakan konteks rumah adat Riau yang telah valid, dan praktis, selanjutnya diujicobakan melalui penelitian *Quasi Eksperimen* guna untuk melihat efektifitas dari LKPD dengan menggunakan konteks rumah adat Riau terhadap kemampuan pemahaan konsep matematis peserta didik yang

menggunakan LKPD dengan menggunakan konteks rumah adat Riau dengan yang tidak menggunakan LKPD dengan menggunakan konteks Rumah Adat Riau. Sesuai dengan penelitian tersebut, maka penelitian menggunakan dua kelas yaitu kelas eksperimen dan kelas kontrol. Kelas eksperimen adalah kelas yang sengaja diberi perlakuan yaitu penggunaan LKPD dengan menggunakan konteks rumah adat Riau dalam pembelajarannya. Sedangkan kelas control dilaksanakan tanpa menggunakan LKPD dengan menggunakan konteks rumah adat Riau. Untuk melihat efektifitas LKPD ini dilakukan Post-Test pada kelas eksperimen dan kelas kontrol. Dari hasil Post-Test, sebelum melakukan uji kesamaan rata-rata terlebih dahulu dilakukan uji prasyarat yaitu terlebih dahulu melakukan uji normalitas. Adapun hasil uji Normalitas dari kelas eksperimen dan kelas control terdapat terdapat pada tabel 3.

Commented [A7]: Idealnya dalam temuan penelitian dan pembahasan mencakup indikator-indikator dibawah ini:
1. informasi latar belakang;
2. laporan hasil;
3. komentar tentang hasil
4. interpretasi hasil
5. perbandingan dengan penelitian lain
6. penjelasan untuk hasil
7. evaluasi hasil
8. ringkasan hasil;

Tabel 3. Uji Normalitas Data Tes Kemampuan Pemahaman Konsep Pesertas Didik

Tests of Normality

Kelas		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Hasil Belajar Siswa	Post-Test Ekperimen	.250	18	.004	.776	18	.001
	Post-Test Kontrol	.121	18	.200*	.888	18	.035

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Berdasarkan hasil uji normalitas di atas, diketahui nilai signifikansi (Sig) untuk data baik dari uji Kolmogorov-Smirnov maupun uji Shapiro-Wilk dapat disimpulkan bahwa nilai signifikansi untuk kelas eksperimen dengan nilai sig.< 0,05 maka data tidak berdistribusi normal. Sedangkan untuk kelas kontrol, disimpulkan bahwa nilai signifikansinya yaitu sig. > 0,05 maka data dinyatakan berdistribusi normal. Karena adanya kelas yang tidak berdistribusi normal, maka akan digunakan uji Mann-Whitney untuk melihat ada atau tidaknya pengaruh LKPD dengan menggunakan konteks rumah adat Riau pada kemampuan pemahaman konsep matematis peserta didik. Adapun hasil uji efetifitas Man-Whitney terdapat pada tabel 4.

Commented [A8]: Perlu dielaborasi lebih holistik dan disiskusikan

Tabel 4. Hasil uji efektifitas Man-Whitney

Test Statistics[a]

	Hasil Belajar Siswa
Mann-Whitney U	42.500
Wilcoxon W	213.500
Z	-3.828
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.)]	.000[b]

a. Grouping Variable: Kelas

b. Not corrected for ties.

Berdasarkan hasil uji Man-Whitney diperoleh bahwa nilai asymp.sig.(2-tailed) yaitu sebesar 0,000. Hal ini, jika nilai asymp.sig.(2-tailed) < 0.05, maka dapat disimpulkan bahwa hipotesis

diterima. Dengan demikian dapat dikatakan bahwa ada perbedaan hasil belajar siswa antara kelas eksperimen yang diberi perlakukan menggunakan LKPD dengan menggunakan konteks rumah adat Riau dengan kelas kontrol yang tidak diberikan perlakuan menggunakan LKPD dengan menggunakan konteks rumah adat Riau. Dengan demikian, maka dapat disimpulkan bahwa LKPD dengan menggunakan konteks Rumah adat Riau efektif digunakan untuk meningakatkan pemahaman konsep matematis peserta didik.

Commented [A9]: Perlu dielaborasi lebih holistik dan disiskusikan

SIMPULAN

Penelitian pengembangan LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga ini bertujuan untuk menghasilkan bahan ajar berupa LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga kelas VII SMP yang valid, praktis, dan efektif. Metode yang digunakan pada penelitian ini yaitu metode pengembangan dengan menggunakan model Plomp yang terdiri dari tahap analisis pendahuluan, tahap pengembangan, dan tahap penilaian. Subjek uji coba pada penelitian ini adalah siswa kelas VII SMP N 2 Kampar Utara. Instrumen yang digunakan pada penelitian ini adalah lembar angket dan wawancara. Angket ditujukan kepada validator ahli isi dan kegrafikan, da validator ahli bahasa dan budaya serta subjek uji coba sebanyak 18 siswa dan satu orang guru mata pelajaran matematika. Hasil penelitian ini yaitu mendapatkan sebuah LKPD dengan menggunakan konteks rumah adat Riau pada materi segiempat dan segitiga yang valid, praktis, dan efektif. Hasil validasi oleh validator ahli isi dan kegrafikan terhadap LKPD dengan menggunakan konteks rumah adat Riau diperoleh skor keseluruhan 342 dengan rata-rata 3,42 yang termasuk kedalam kategori sangat valid. Dan hasil validasi oleh validator ahli bahasa dan budaya secara keseluruhan diperoleh skor 117 dengan rata-rata 3,25 yang termasuk kedalam kategori sangat valid. Berdasarkan hasil kepraktisan LKPD dengan menggunakan konteks rumah adat Riau didapatkan hasil kepraktisan pada tahap *One-to-One* sebesar 88,3% yang termasuk kedalam kategori sangat praktis. Dan pada tahap *Small Group* didapatkan hasil kepraktisan sebesar 87,3% dalam kategori sangat praktis. Selanjutnya berdasarkan hasil efektifitas, didapatkan hasil bahwasanya LKPD dengan menggunakan konteks rumah adat Riau efektif digunakan yang dapat dilihat dari hasil sig.(2-tailed) yaitu 0,000 dimana jika nilai sig.(2-tailed) $< 0{,}05$ maka terdapat pengaruh pada tindakan yang diberikan. Maka dapat disimpulkan bahwasanya LKPD dengan menggunakan konteks rumah adat Riau dinyatakan efektif untuk digunakan.

Commented [A10]: -Simpulan belum merepresentasikan evaluasi keseluruhan dari penelitian ini. Misalnya apakah temuan penelitian yang telah dianalisis dapat menjawab pertanyaan penelitian. Bagaimana dampak dari penelitian ini terkait isu yang diangkat.

Direkomendasikan untuk menambahkan bagian saran sebagai refleksi kekurangan dari penelitian ini dan saran bagi peneliti berikutnya yang akan menevaluasi, melanjutkan atau mengembangkan penelitian ini.

DAFTAR PUSTAKA

Astuti, A., & Sari, N. (2017). Pengembangan Lembar Kerja Siswa (Lks) Pada Mata Pelajaran Matematika Siswa Kelas X Sma. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *1*(2), 13–24. https://doi.org/10.31004/cendekia. v1i2.16

Ayunda, F., & Jelita, L. (2020). Pengembangan lembar kerja peserta didik (LKPD) berbasis kearifan lokal untuk siswa sekolah dasar. *Sekolah PGSD FIP UNIMED*, *4*(4), 70–77.

Ayuningtyas, A. D., & Setiana, D. S. (2019). Pengembangan Bahan Ajar Matematika Berbasis Etnomatematika Kraton Yogyakarta. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *8*(1), 11–19. https://doi.org/10.24127/ajpm.v8i1.1630

Nahak, H. (2019). Upaya Melestarikan Budaya Indonesia si Ers Globalisasi. *Jurnal Sosiologi Nusantara*, *5*(1), 65–76. https://doi.org/10.33369/jsn.5.1.65-76

Plomp, T., & Nieveen, N. (2013). *An Introduction to Educational Design Research*. Enschede: Netherland Institute for Curriculum Development (SLO).

Rewatus, A., Leton, S. I., Fernandez, A. J., & Suciati, M. (2020). Pengembangan Lembar Kerja Peserta Didik Berbasis Etnomatematika Pada Materi Segitiga dan Segiempat. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 645–656. https://doi.org/10.31004/cendekia.v4i2.276

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R & D*. Bandung: Alfabeta, CV.

Commented [A11]: -Cek kembali kelengkapan referensi dengan konten yang dikutip.
-Pastikan semua sumber pustaka disusun berdasarkan APA referencing style 7th edition.
-Beberapa jurnal tidak ada volume, nomor isu dan halaman terbitan.
-Beberapa buku belum dilengkapi tempat dan tahun terbit
-Upayakan untuk menggunakan referensi termutakhir tahunnya.

Zulfah. (2020). *Pengembangan Lembar Kerja Peserta Didik Berbasis Problem Based Learning*. Sukabumi : Haura Publishing.

Zulfah, Z., & Insani, S. U. (2020). Pengembangan Soal Matematika Berbasis Kearifan Lokal dan Daya Tarik Wisata Riau Pada Tahap Preliminary Research. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 797–799. https://doi.org/10.31004/cendekia.v4i2.311

Al-Ishlah: JurnalPendidikan
Vol.14, 1 (April, 2022), pp. 61-70
ISSN: 2087-9490 EISSN: 2597-940X, DOI: 10.35445/alishlah.v14i1.973

Development of Student Worksheets by Using the Context of Riau Traditional Houses on Quadrilaterals and Triangles

Astuti Astuti[1], Zulfah Zulfah[2], Nur Fitriana[3]

[1] Mathematics Education Study Program, UniversitasPahlawanTuankuTambusai; astutimasnur@g-mail.com
[2] Mathematics Education Study Program, UniversitasPahlawanTuankuTambusai, zulfahasni670@gmail.com
[3] Mathematics Education Study Program, UniversitasPahlawanTuankuTambusai, anurfitri76@gmail.com

ARTICLE INFO

Keywords:

Developing Students' Worksheet;
Riau Traditional House;
Segiempatdansegitiga

Article history:

Received 2021-08-14
Revised 2021-11-12
Accepted 2022-01-17

ABSTRACT

This study aims to produce teaching materials in the form of student worksheets by using the context of Riau traditional house on the material of quadrilaterals and triangles for class VII of Junior High School. This developmental research uses Plomp model which consists of a preliminary analysis stage, development stage, and assessment stage. The test subjects in this study were seventh grade students of SMP N 2 Kampar Utara which consisted of 18 students and one mathematics teacher. The subjects of this research were seventh grade students of SMP N 2 Kampar Utara which consisted of 18 students and one Mathematics teacher. The result of this study is to produce student worksheets by using Riau traditional house context on valid, practical, and effective quadrilateral and triangle material.It can be seen that based on the results of the validation of content experts, an average of 3.42 was obtained in the very valid category, the results of the validation of linguists and cultural experts obtained an average of 3.25 which was included in the very valid category.The results of the practicality of student worksheets at the One-to-One and Small Group stages are 87.6% which are included in the very practical category, and the results of the practicality of student worksheets by the teacher are 87.5% in the very practical category. Furthermore, based on the results of effectiveness, it was found that student worksheets using the context of the Riau traditional house were very effective and suitable for use in the classroom.

Corresponding Author:
ZulfahZulfah
Program StudiPendidikanMatematikaUniversitasPahlawanTuankuTambusai, zulfahasni670@gmail.com

1. INTRODUCTION

Education is a form of a learning process that seeks students to be active in developing themselves so that they have knowledge that can change educated attitudes and behaviour and increase competitiveness. One of the fields of science that plays important role in the world of education is Mathematics Kamarullah (2017). Mathematics is an exact science that is the basis of all knowledge studied. Mathematics plays an important role in the world of education and technological development Wandari, Kamid, & Maison (2018). Mathematics has an important role in everyday life,

where almost everything around us is related to mathematics, including community culture Rewatus, Leton, Fernandez, & Suciati (2020).Realizing the importance of the role of mathematics, optimizing student learning outcomes in mathematics at every level of education needs serious attention so that national education goals can be achievedAstuti & Sari (2017).

Mathematics learning is more lively and fun when there is a new innovation in it.One aspect that can be developed for this learning innovation is local culture or also known as local wisdom.Culture or local wisdom as part of Indonesian culture, which is rich in diversity and pluralism, whose existence is currently being questionedZulfah & Insani (2020). By the influence of culture from outside, slowly they begin to forget their own culture which should be developed.The reality today, many Indonesian people prefer a culture that they consider more interesting or more unique and practical.Many local cultures have faded as a result of the lack of young generations who have an interest in learning and inheriting itNahak (2019).

One of the contributing factors is that the learning that is carried out in school is still oriented by teacher. This happens because of the lack of students' knowledge on the various benefits of mathematics which are closely related to culture. An effort as the solution is the teacher's role in learning process is very important. Teacher must prepare learning media that are good and suitable with the material and conditions of students such as teaching materials.Rewatus et al.,(2020: 646)state that the ways that teachers can do is developing teaching materials that using an approach in the process of developing teaching materials, which is in accordance with the material to be delivered. One of the teaching materials that can be developed by teachers is student worksheet.

Student worksheet is one of the printed teaching materials that can be used to make it easier for students to understand the material givenAstuti (2021). By student worksheets, students can also be guided to rediscover a concept. student worksheets can make it easier for teachers to carry out the learning process Zulfah (2020). Student worksheets not only contain questions but also material, descriptions, and exercises that must be done by studentsWandari et al. (2018). The development of student worksheets is very necessary in the world of education. Student worksheets are expected to meet the characteristics of the 2013 curriculum, namely increasing equality between the development of spiritual and social attitudes, curiosity, creativity, cooperation with intellectual and psychomotor abilities.

Student worksheets based on the context of the Riau traditional house are designed by integrating the various forms found in the Riau traditional house into subjects to introduce students to the forms of Riau traditional houses that must be preserved. According to Ayunda & Jelita (2020: 71),the values contained in student worksheets can be a basis for developing a learning process. However, nowadays there are still very few schools that apply learning by using a cultural context,therefore, many students do not know the culture that exists in their area.

Some researches discussed that there is contribution of culture in Mathematic learning. Wandari et al., (2018: 54)state that by incorporating culture into mathematics learning, students can understand mathematics learning in a fun and easy way. Students can find out more about the culture of their own region. In addition, student worksheets based on culture are feasible to use and get a positive response from students and increase student learning outcomes.Disnawati & Nahak (2019: 77)Culture-based student worksheets can improve students' understanding; the developed student worksheets also received positive responses from students where they are more motivated to learn mathematics because there is a cultural element in it. Furthermore, Rewatus et al., (2020: 655)stated that the difficulty for students in connecting mathematics with real life becomes the main factor in the importance of culture-based learning.The development of culture-based student worksheets is appropriate for students to use in the learning process and is expected to increase

student activity in learning mathematics. In this case, education and culture are an inseparable unit.Culture-based learning is learning that allows teachers and students to actively participate based on what they already know, so that optimal learning outcomes are obtained.In addition, culture-based learning will certainly provide an introduction and understanding for students about the culture that exists in the surrounding environment so that it can have a positive influence on the cultivation of the character of students who have a noble culture Ayuningtyas & Setiana (2019).

Based on the results of interviews and observations conducted on April 5th, 2021 at SMP N 2 Kampar Utara to mathematics teachers, there are still many students who do not like learning mathematics because they feel learning mathematics is very difficult and boring. In addition, information was also obtained that students' understanding of mathematical concepts was still low in the quadrilateral and triangle material. This happens because there are no practical and effective teaching materials from the teacher as a guide for students in learning mathematics. The teaching materials used in learning are math textbooks that can only be borrowed from schools in limited quantities. Another problem faced is about working on student worksheets that must be guided by the teacher. Meanwhile, the K13 curriculum has been decided to be a reference in learning, but it is not fully used because it sees the suitability and condition of students. Student worksheets still depend on textbooks in which there are questions that are difficult to do and to understand so that many students do not do the assignments given.During the observation, information was also obtained that there were no student worksheets that were used in a cultural context. Therefore, the student worksheets that were developed by researchers are student worksheets based Riau cultural context in the quadrilateral and triangle material at class VII SMP. Riau cultural context which was taken and related to the material of the quadrilateral and triangle is the cultural context of the Riau Traditional House.

There are still many students at the junior high school level who do not know the surrounding cultures. To know culture, students get it from cultural arts subjects Astuti, Zulfah, & Rian (2021). The existence of student worksheets with a cultural context is one form of introducing culture. In this study, the culture taken is the cultural context of traditional houses in Riau. The cultural context of Riau Traditional House is taken because the traditional house is one of Riau's cultural identities that must be preserved. In traditional house buildings, there are mathematical concepts that are in accordance with the material of Quadrilateral and Triangle including, Square, Triangle, Trapezoid, Rectangle and others. As for some parts of the shape of the building, namely the shape of the front roof rafters in the form of a triangle and a trapezoid, the shape of the roof on the left and right is in the form of a parallelogram, the door is in the shape of a rectangle, and the windows of a traditional house are in the shape of a square and a rectangle. From the various forms of the traditional house, it can be concluded that Riau Traditional House building can be associated with quadrilateral and triangular materials in mathematic learning.

METHODS

This type of research is research and development (Research and Development). According to Sugiyono (2017),research and development methods are research methods used to produce certain products and test the effectiveness of these products. In this study, the development model used was

adapted from the model developed by Plom. The Plom model consists of three stages, namely the preliminary analysis phase (Preliminary Research), the development or prototype phase (Development or Prototyping Phase), and the assessment phase (Assessment Phase)Plomp & Nieveen (2013). n the prototype development phase (Prototyping Phase), a series of prototypes are developed. The prototype is evaluated with reference to formative evaluation. Formative evaluation has several stages or layers which are illustrated in Figure 1.

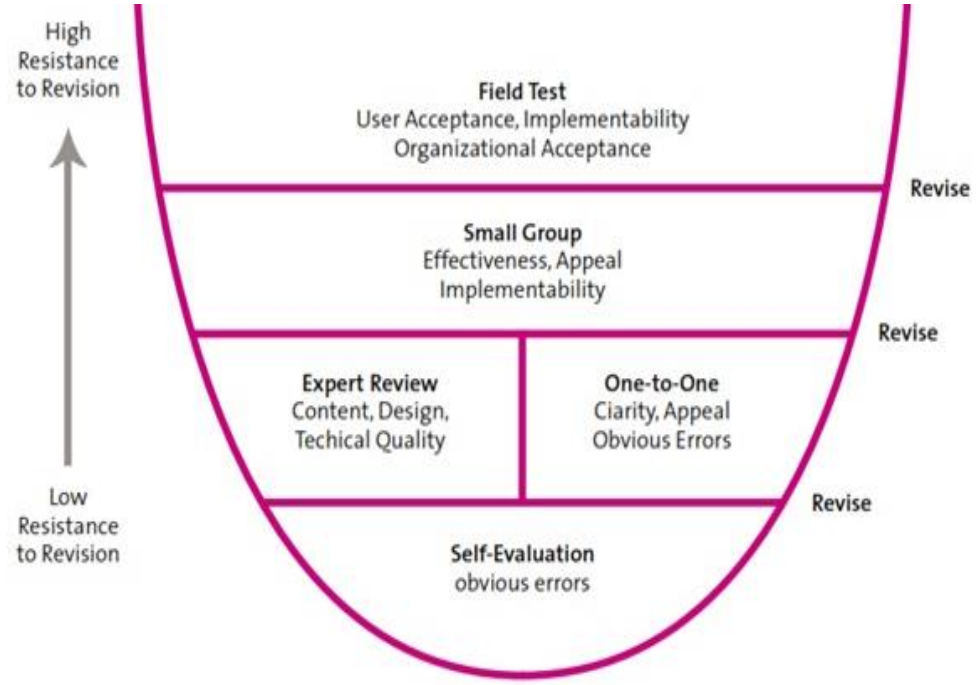


Figure 1. Layers of Formative Evaluation of Plomp . Development(Zulfah, 2020)

This research was conducted at SMP N 2 Kampar Utara. The time of this research was carried out in the even semester of the 2020/2021 academic year starting from February-June 2021. This research was carried out in class VII SMP N 2 Kampar Utara. The research procedure contains a description of the steps taken in the research. This research procedure consists of three stages, namely the preliminary analysis phase, the development or prototype-making phase, and the assessment phase. The research procedure can be seen in Table 1

Table 1. Procedure of the Research

Phase	Criteria	Description of Activity	Instrument
Preliminary Research	Emphasis on content validity	Needs analysis, curriculum analysis, student analysis, concept analysis and analysis of existing teaching materials	*Check list*
Development/ Prototyping Phase	Focus on validity and practicality	Evaluation of the prototype in terms of validity, which is carried out through Self-Evaluation and Expert Review. After being revised according to the standard of validity, it is continued with a practical assessment of student worksheets which is carried	Validation sheets, questionnaires and interviews.

		out through One-to-one Evaluation and Small Group Evaluation.	
Assessment Phase	Practicality and effectiveness	Assess whether the product has been practical and effective through the field test stage (Field Test)	Questionnaires, guidelines, interviews, student worksheets

Resource: Zulfah (2020)

The technique of collecting data in this research is by doing observation and distributing questionnaires. The data analysis technique used a qualitative descriptive analysis technique. The results of data analysis are used as the basis for revising the developed product. For assessment guidelines, see Table 2.

Table 2. Student Worksheet Validation Score

No	Option	Score
1	Strongly agree	4
2	Agree	3
3	Don't agree	2
4	Strongly Disagree	1

The score given is one to four for strongly disagree, disagree, agree, and strongly agree. The interval data can be analyzed by calculating the average score based on the answers of the experts. To determine the value of data analysis can be calculated by the following formula:

$$R = \frac{\sum_{i=1,\ j=1}^{i=m,j=n} V_{ij}}{mn}$$

Information:
R = Average assessment results from experts/practitioners
V_ij = Score of the jth expert/practitioner scores against the ith criteria
n = Number of experts who judged
m = number of criteria

The criteria for obtaining the level of validity of student worksheets can be seen in Table 3.

Table 3. Criteria for Validity of Student Worksheets

Average Rating	Interpretation
R > 3,20	Very Valid
2,40 < R ≤ 3,20	Valid
1,60 < R ≤ 2,40	Quite Valid
0,80 < R ≤ 1,60	Less Valid
R ≤ 0,80	Invalid

Resources: (Mulyardidalam(Zulfah, 2020)

The teacher and student response questionnaires are arranged in the form of a Likert scale. This scale is arranged in a positive category so that positive statements get the weight according to what Arikunto stated inZulfah (2020). For practicality assessment guidelines can be seen in Table 4.

Table 4. Practicality Assessment Score

No	Option	Score
1	Strongly agree	4
2	Agree	3
3	Don't agree	2
4	Strongly Disagree	1

The practicality questionnaire of the student worksheets was described using the data frequency analysis technique with the formula below.

$$P = \frac{\mathrm{R}}{\mathrm{SM}} \times 100\%$$

Information:
P = Practikality score
R = Score obtained
SM = Maximum Score

(Purwanto, 2012)

The criteria for obtaining practical results can be seen in Table 5.

Table 5. Practical criteria for student worksheets

Achievement Rate (%)	Percentage Range
$85 \leq P \leq 100$	Very Practical
$75 \leq P < 85$	Practical
$60 \leq P < 75$	Practical enough
$55 \leq P < 65$	Less Practical
$0 \leq P < 55$	Not Practical

Resource:(Purwanto, 2012)

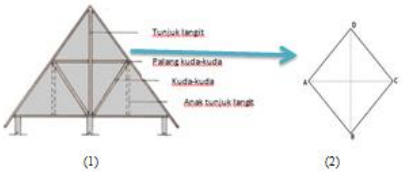
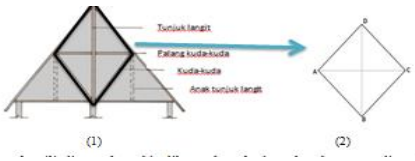
FINDINGS AND DISCUSSION

Before developing student worksheets based on the context of Riau traditional house on the Quadrilateral and Triangle materials for Class VII SMP, a preliminary study or needs analysis was carried out by conducting observations and interviews with several class VII students and Mathematics teachers at SMP Negeri 2 Kampar Utara. The results of the development research on the Quadrilateral and Triangle Materials for Class VII SMP can be seen from the results of the preliminary analysis (Preliminary Research), the results of the development phase (Prototyping Phase), and the results of the assessment phase (Assessment Phase). In the Preliminary Research analysis activities, needs analysis, student analysis, curriculum analysis, and concept analysis were carried out. From this activity, it is concluded that students need a teaching material in the form of student worksheets that can help them in the learning process. Student worksheets are expected to be related to real life and guide students to be able to solve the problems given correctly.

In the development stage (Prototyping Phase), student worksheets by using the context of the Riau traditional house are designed based on core competencies and basic competencies in order to achieve optimal learning objectives. Student worksheets using the context of Riau traditional house which was developed according to the criteria set both in terms of content as well as language and culture. At this stage of development, a self-evaluation stage will be carried out which will produce prototype 1. After conducting self-evaluation and revising the student worksheets, the student worksheet will be validated by an expert (Expert Review). Validation of student worksheets is carried out to determine the feasibility of a product being developed. Validation of student worksheets was carried out by 8 experts consisting of 5 mathematics lecturers and 3 language and culture lecturers. Based on the results of the validation, there are some comments and suggestions from the validator in order to revise the student worksheets as shown in table 6 below.

Table 6. Validator's Comments and Suggestions on Student Worksheets based on the Context of Riau Traditional House on the Materials of Quadrilaterals and Triangles

No.	Suggestions	Revision
Content and Graphic Aspects		
1.	Fix the location of the context used on the cover, don't put it at the bottom, place it at the top to make it more visible what context is used.	Revisions were made to the layout of the title on the cover.

		
2.	Make the steps in the image used	Revise the stages of the image used
3.	If using a picture, make a line according to the flat shape used. 	Revising the sequence of images by marking them in the form of colored lines to make it more visible what is being presented. 
Language and Cultural Aspects		
1.	Fix spelling mistakes	Corrected the writing that is still wrong
2.	Pay attention to good and correct spelling	Corrected spelling
3.	Inconsistent typeface and layout	Improvements were made to the typeface and letter layout
4.	Complete the incomplete sentences, for example the sentence in question number one. • Jawablah soal-soal berikut dengan jawaban yang tepat! 1) Perhatikan gambar! 	Do the addition of the right sentence in question number one and in the other sentences. • Jawablah soal-soal berikut dengan jawaban yang tepat! 1) Perhatikan gambar di bawah ini! 

Based on the suggestions above, revisions were made to the student worksheets. After the revision, the validators then gave an assessment of the validity of the student worksheets based on the context of Riau traditional houses.

Characteristics of Student Worksheets by Using the Context of a Valid Riau Traditional House

Student worksheets resultedby using Riau traditional house context have been declared valid based on the content aspect. It is reasonable because it has been designed according to competency

standards;therefore the objectives of learning mathematics are increased. In the presentation/graphic aspect based on the validation results by the validator, the student worksheets were valid and accordance with the predetermined graphic aspects. In the next aspect, namely the language and cultural aspects, the students' worksheets were obtained by using the context of the Riau traditional house which was in accordance with the provisions of the linguistic aspect. Through the improvements based on the results of validation with the validator, the student worksheets have been obtained in accordance with the provisions of the Enhanced Spelling and in accordance with the cultural aspects presented. The student worksheets by using the context of the Riau traditional house are in accordance with the rules of writing terms, symbols, and mathematical equations.

Based on the assessment of 8 expert validators, namely 5 content and graphic expert validators and 3 linguistic and cultural expert validators, the results obtained that in general the entire student worksheet by using the context of the Riau traditional house was declared very valid with an average validity of the content aspect of 3,42 with a very valid category. The results of expert validation can be seen in Table 7.

Table 7. Results of Content and Graphic Expert Validation

Aspect	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Score	Value
Content and Graphics	3,45	3,05	3,60	3,40	3,60	**17,1**	**3,42**

Based on table 7, it can be seen that the results of the validation of content and graphic experts on student worksheets using the context of the Riau traditional house obtained a value of 3.42 with a very valid category. Furthermore, the results of the validation of linguists and cultural experts can be seen in table 8.

Table 8. Validation Results of Language and Cultural Experts

Aspect	Expert 1	Expert 2	Expert 3	Score	Value
Content and Graphics	3,50	3,25	3,00	**9,25**	**3,25**

Based on table 8, it can be seen that the validation results of language and cultural experts, namely 3.25 are included in the very valid category.

Characteristics of Student Worksheets by Using the Practical Context of Riau Traditional Houses

Tests on the practicality of student worksheets using the context of the Riau traditional house were carried out on students consisting of 3 students at the One-to-One Evaluation stage and 6 students at the Small Group Evaluation stage and practicality by one mathematics teacher.Based on the results of the evaluation in the One-to-One stage, the percentage value was 87.5% with a very practical category. The results of the evaluation at the one-to-one stage can be seen in Table 8.

Table 8. The average results of the practicality of student worksheets using the context of the Riau Traditional House by all students in the One-to-One Stage

No	Material	Practicality Percentage
1.	**Quadrilaterals**	88,3%
2.	**Triangles**	86,7%
	Average Percentage	**87,5%**
	Category	**SP**

After conducting the evaluation at the one-to-one stage, then an evaluation was carried out at the small group stage which got a percentage value of 87.6% with a very practical category which can be seen in Table 9.

Table 9. Average Practicality of Student Worksheets Using the Context of Riau Traditional Houses by all Students in the Small Group Stage

No	Material	Practicality Percentage
1.	Quadrilaterals	87,3%
2.	Triangles	87,8%
	Average Percentage	**87,6%**
	Category	**SP**

After conducting evaluation at one-to-one and small group stages, an evaluation of the mathematics teacher was then carried out. In the results of the questionnaire assessment by the teacher, the percentage results were 87.5% with a very practical category. The results of the evaluation of mathematics teachers can be seen in Table 10.

Table 10. Practical results of student worksheets by Mathematics teachers

No	Statement	Score
1.	The display of the cover page of the student worksheet by using the context of Riau traditional house is interesting.	4
2.	Each student worksheet title by using the context of Riau traditional house is displayed clearly so that it can describe the contents of the student worksheet.	4
3.	The placement of the layout (title, subtitle, text, image, page number) of the student worksheet is consistent according to a certain pattern.	3
4.	Student worksheets by using the context of Riau traditional house used easy-to-understand language	4
5.	Student worksheets by using the context of Riau traditional house used simple sentences and easy for students to understand	3
6.	Instructions for student activities in the student worksheets are clear and can make it easier for students to carry out the activities contained in the student	3

	worksheets.	
7.	The presentation of culture on student worksheets is in accordance with the Quadrilateral and Triangle material.	4
8.	The material presented in student worksheets by using the context of Riau traditional house is in accordance with the level of students' abilities	4
9.	Student worksheets by using the context of Riau traditional house can hone students' mathematical concept understanding skills.	3
10.	This student worksheet by using the context of Riau traditional house encourages students to be enthusiastic on learning about the Quadrilateral and Triangle material	3
	Final Score	**35**
	Percentage	**87,5 %**
	Category	**SP**

The student worksheet by using the context of Riau traditional house is stated to be practical without revision with comments and suggestions, which is quite good and easy to understand by students. So it has been declared practical to use. Based on the results obtained from the small group stage with the practical to very practical category, the student worksheet by using the context of Riau traditional house has been declared practical and feasible to use.

The Effectiveness of Student Worksheets by Using the Context of Riau Traditional Houses

This research has produced an effective student worksheets by using the context of Riau traditional house that can have a positive impact on student learning outcomes in the material of quadrilaterals and triangles for class VII SMP. This product is declared effective if it has reached the field test stage. During the field test, student worksheets were given to a class whose students are in the one-to-one and small group stages. After being given student worksheets and used in the learning process, the next step is to give post-test questions to students, this is done to see if there is an effect from not using student worksheets after using student worksheets. If there is an effect then this student worksheet is declared effective. In this study, student worksheets developed in the context of the Riau traditional house have been declared effective, because the students' pre test and post test scores showed a significant influence on their learning outcomes. The effect of using student worksheets is seen from the results of the Man-Whitney test. Based on the results of the Man-Whitney test, it was obtained that the value of a symp.sig. (2-tailed) was 0.000. In this case, if the value of a symp.sig.(2-tailed) < 0.05, it can be concluded that the hypothesis is accepted. Thus, it can be said that there is a difference in student learning outcomes between the experimental class that was treated using student worksheets using the context of the Riau traditional house and the control class that was not treated using student worksheets using the context of the Riau traditional house. It was concluded that student worksheets using the context of the Riau traditional house were effectively used to increase students' understanding of mathematical concepts.

Based on the explanation above, the results show that the students worksheet by using the context of Riau traditional house give contribution in teaching and learning mathematic. According to Widyastuti (2021), culture has important role in education. If there is high culture, there is high education. Wiest (2001) states that cultural context can be used for teaching and learning mathematic. Teaching mathematic can be adopted from multiple cultural perspective. Mathematic learning can be required through cultural knowledge. Traditional house as one part of culture has mathematic practice which can be used as the material in teaching and learning proces. The student worksheets developed are very helpful for students to understand mathematical concepts so that they can improve student learning outcomes, the results of Talo's research in 2022 that with ethno mathematics-based student worksheets can improve learning outcomes for fourth grade elementary school students Talo et al. (2022).

The use of student worksheets in the context of the Riau traditional house has made a quality mathematics learning, students can focus their attention on student worksheets containing pictures of Riau traditional houses, so that their curiosity arises. Activities like this make students focus on learning so that they can make students understand the material presented. It is supported by Acharya, Kshetree, Khanal, Panthi, & Belbase (2021) who state that there is a positive perspective on cultural relevance of basic level mathematics. Quality mathematics learning must be supported by various aspects, one of which is a professional teacher who can utilize learning resources and develop teaching materials Friansyah & Luthfiana (2018) it is expected for teachers to be able to take advantage of the surrounding environment or culture to be teaching materials in learning mathematics. Mathematics grows and develops according to the local culture Marsigit (2016).

CONCLUSION

Research on the development of student worksheets using the context of the Riau traditional house on the quadrilateral and triangle material developed with the Plomp model aims to produce teaching materials in the form of valid, practical, and effective student worksheets. The results of this study indicate that the student worksheets developed are very valid by eight experts as validators, very practical by students and mathematics teachers. The developed student worksheets are also very effective for learning mathematics on quadrilaterals and triangles. By using this student worksheet, students can improve their mathematical concepts. This research only focuses on quadrilateral and triangle material. It is hoped that further research can develop student worksheets with other materials so that many student worksheets are developed to help students understand mathematical material.

REFERENCES

Acharya, B. R., Kshetree, M. P., Khanal, B., Panthi, R. K., & Belbase, S. (2021). Mathematics educators' perspectives on cultural relevance of basic level mathematics in Nepal. *Journal on Mathematics Education*, *12*(1), 17–48. https://doi.org/10.22342/JME.12.1.12955.17-48

Astuti, A. (2021). Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis Problem Based Learning (PBL) untuk Kelas VII SMP/MTs Mata Pelajaran Matematika. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *5*(2), 1011–1024. https://doi.org/10.31004/cendekia.v5i2.573

Astuti, A., & Sari, N. (2017). Pengembangan Lembar Kerja Siswa (Lks) Pada Mata Pelajaran Matematika Siswa Kelas X Sma. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *1*(2), 13–24. https://doi.org/10.31004/cendekia.v1i2.16

Astuti, A., Zulfah, Z., & Rian, D. (2021). Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis Etnomatematika pada Materi Bangun Ruang Sisi Datar Kelas VIII SMP Negeri 11 Tapung. *Jurnal Pendidikan Tambusai*, *5*(3), 9222–9231. https://doi.org/10.31004/jptam.v5i3.2452

Ayunda, F., & Jelita, L. (2020). Pengembangan lembar kerja peserta didik (LKPD) berbasis kearifan lokal untuk siswa sekolah dasar. *Sekolah PGSD FIP UNIMED*, *4*(4), 70–77.

Ayuningtyas, A. D., & Setiana, D. S. (2019). Pengembangan Bahan Ajar Matematika Berbasis Etnomatematika Kraton Yogyakarta. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *8*(1), 11–19. https://doi.org/10.24127/ajpm.v8i1.1630

Disnawati, H., & Nahak, S. (2019). Pengembangan Lembar Kerja Siswa Berbasis Etnomatematika Tenun Timor pada Materi Pola Bilangan. *Jurnal Elemen*, *5*(1), 64. https://doi.org/10.29408/jel.v5i1.1022

Friansyah, D., & Luthfiana, M. (2018). Desain Lembar Kerja Siswa Materi Sistem Persamaan Dua Variabel Berorientasi Etnomatematika. *Jurnal Pendidikan Matematika (JUDIKA EDUCATION)*, *1*(2), 83–92. https://doi.org/10.31539/judika.v1i2.322

Kamarullah, K. (2017). Pendidikan Matematika di Sekolah Kita. *Al Khawarizmi: Jurnal Pendidikan Dan Pembelajaran Matematika*. https://doi.org/10.22373/jppm.v1i1.1729

Marsigit, M. (2016). Pembelajaran matematika dalam perspektif kekinian. *Math Didactic: Jurnal Pendidikan Matematika*, *2*(3), 132–141. https://doi.org/10.33654/math.v2i3.40

Nahak, H. (2019). Upaya Melestarikan Budaya Indonesia si Ers Globalisasi. *Jurnal Sosiologi Nusantara*, *5*(1), 65–76. https://doi.org/10.33369/jsn.5.1.65-76

Plomp, T., & Nieveen, N. (2013). *An Introduction to Educational Design Research*. Netherlands: Enschede: Netherland Institute for Curriculum Development (SLO).

Purwanto, N. (2012). *Prinsip-prinsip dan Teknik Evaluasi Pengajaran*. Bandung: Bandung: Alfabeta.

Rewatus, A., Leton, S. I., Fernandez, A. J., & Suciati, M. (2020). Pengembangan Lembar Kerja Peserta Didik Berbasis Etnomatematika Pada Materi Segitiga dan Segiempat. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 645–656. https://doi.org/10.31004/cendekia.v4i2.276

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R & D*. Bandung: Bandung: Alfabeta, CV.

Talo, Y. A., Ardana, I. M., Kertih, I. W., Studi, P., Dasar, P., & Ganesha, U. P. (2022). *Berbasis Etnomatematika Batu Kubur Dan Rumah Adat*. *6*(1), 84–93.

Wandari, A., Kamid, K., & Maison, M. (2018). Pengembangan Lembar Kerja Peserta Didik (LKPD) pada Materi Geometri berbasis Budaya Jambi untuk Meningkatkan Kreativitas Siswa. *Edumatika : Jurnal Riset Pendidikan Matematika*, *1*(2), 47. https://doi.org/10.32939/ejrpm.v1i2.232

Widyastuti, M. (2021). *Peran Kebudayaan Dalam Dunia Pendidikan The Role of Culture in The Word of Education*. *1*(1), 54–64.

Wiest, L. R. (2001). Teaching mathematics from a multicultural perspective. *Equity and Excellence in Education*, *34*(1), 16–25. https://doi.org/10.1080/1066568010340103

Zulfah. (2020). *Pengembangan Lembar Kerja Peserta Didik Berbasis Problem Based Learning*. Sukabumi: Sukabumi : Haura Publishing.

Zulfah, Z., & Insani, S. U. (2020). Pengembangan Soal Matematika Berbasis Kearifan Lokal dan Daya Tarik Wisata Riau Pada Tahap Preliminary Research. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 797–799. https://doi.org/10.31004/cendekia.v4i2.311

Judul artikel astuti

by turnitin ell

Submission date: 22-Mar-2025 10:22AM (UTC+0700)
Submission ID: 2605641480
File name: 1779-14996-1-PB.docx (306.31K)
Word count: 5020
Character count: 28318

Al-Ishlah: JurnalPendidikan
Vol.14, 4 (December, 2022), pp. 5743-5754
ISSN: 2087-9490 EISSN: 2597-940X, DOI: 10.35445/alishlah.v14i4.1779

Development of Student Worksheets by Using the Context of Riau Traditional Houses on Quadrilaterals and Triangles

Astuti Astuti[1], Zulfah Zulfah[2], Nur Fitriana[3]

[1] Universitas Pahlawan Tuanku Tambusai, Indonesia; astutimasnur@g-mail.com
[2] Universitas Pahlawan Tuanku Tambusai, Indonesia; zulfahasni670@gmail.com
[3] Universitas Pahlawan Tuanku Tambusai, Indonesia; anurfitri76@gmail.com

ARTICLE INFO

Keywords:

Developing Students' Worksheet;
Riau Traditional House;
Quadrilaterals;
Triangles

Article history:

Received 2021-08-20
Revised 2022-01-12
Accepted 2022-12-05

ABSTRACT

This research aims to develop teaching materials in the form of student worksheets that integrate the context of Riau traditional houses in teaching rectangles and triangles for seventh grade students in junior high schools. The study follows the Plomp model, which includes a preliminary analysis phase, a development phase, and an evaluation phase. Participants in this research were seventh grade students from SMP N 2 Kampar Utara, consisting of 18 students and one mathematics teacher. The result of this research is the creation of a student worksheet based on the Riau traditional house context, which focuses on rectangles and triangles, which is valid, practical and effective. The validation results from material experts produced an average score of 3.42, which is in the very valid category, while validation from language experts and cultural experts obtained an average score of 3.25, which is also included in the very valid category. The practicality assessment during the One-to-One and Small Group stages showed a score of 87.6%, indicating a very practical level, and the teacher's assessment of the worksheets' practicality was 87.5%, also in the very practical category. In addition, the effectiveness evaluation shows that student worksheets based on the Riau traditional house context are very effective and suitable for use in the classroom.

Corresponding Author:
ZulfahZulfah
Universitas Pahlawan Tuanku Tambusai, Indonesia; zulfahasni670@gmail.com

1. INTRODUCTION

Education is a form of a learning process that seeks students to be active in developing themselves so that they have knowledge that can change educated attitudes and behaviour and increase competitiveness. One of the fields of science that plays important role in the world of education is Mathematics Kamarullah (2017). Mathematics is an exact science that is the basis of all knowledge studied. Mathematics plays an important role in the world of education and technological development Wandari, Kamid, & Maison (2018). Mathematics has an important role in everyday life, where almost everything around us is related to mathematics, including community culture Rewatus,

Leton, Fernandez, & Suciati (2020).Realizing the importance of the role of mathematics, optimizing student learning outcomes in mathematics at every level of education needs serious attention so that national education goals can be achievedAstuti & Sari (2017).

Mathematics learning is more lively and fun when there is a new innovation in it.One aspect that can be developed for this learning innovation is local culture or also known as local wisdom.Culture or local wisdom as part of Indonesian culture, which is rich in diversity and pluralism, whose existence is currently being questionedZulfah & Insani (2020). By the influence of culture from outside, slowly they begin to forget their own culture which should be developed.The reality today, many Indonesian people prefer a culture that they consider more interesting or more unique and practical. Many local cultures have faded as a result of the lack of young generations who have an interest in learning and inheriting itNahak (2019).

One of the contributing factors is that the learning that is carried out in school is still oriented by teacher. This happens because of the lack of students' knowledge on the various benefits of mathematics which are closely related to culture. An effort as the solution is the teacher's role in learning process is very important. Teacher must prepare learning media that are good and suitable with the material and conditions of students such as teaching materials.Rewatus et al.,(2020: 646)state that the ways that teachers can do is developing teaching materials that using an approach in the process of developing teaching materials, which is in accordance with the material to be delivered. One of the teaching materials that can be developed by teachers is student worksheets.

Student worksheet is one of the printed teaching materials that can be used to make it easier for students to understand the material givenAstuti (2021). By student worksheets, students can also be guided to rediscover a concept. student worksheets can make it easier for teachers to carry out the learning process Zulfah (2020). Student worksheets not only contain questions but also material, descriptions, and exercises that must be done by studentsWandari et al. (2018). The development of student worksheets is very necessary in the world of education. Student worksheets are expected to meet the characteristics of the 2013 curriculum, namely increasing equality between the development of spiritual and social attitudes, curiosity, creativity, cooperation with intellectual and psychomotor abilities.

Student worksheets based on the context of the Riau traditional house are designed by integrating the various forms found in the Riau traditional house into subjects to introduce students to the forms of Riau traditional houses that must be preserved. According to Ayunda & Jelita (2020: 71),the values contained in student worksheets can be a basis for developing a learning process. However, nowadays there are still very few schools that apply learning by using a cultural context,therefore, many students do not know the culture that exists in their area.

Some researches discussed that there is contribution of culture in Mathematic learning. Wandari et al., (2018: 54)state that by incorporating culture into mathematics learning, students can understand mathematics learning in a fun and easy way. Students can find out more about the culture of their own region. In addition, student worksheets based on culture are feasible to use and get a positive response from students and increase student learning outcomes.Disnawati & Nahak (2019: 77)Culture-based student worksheets can improve students' understanding; the developed student worksheets also received positive responses from students where they are more motivated to learn mathematics because there is a cultural element in it. Furthermore, Rewatus et al., (2020: 655)stated that the difficulty for students in connecting mathematics with real life becomes the main factor in the importance of culture-based learning.The development of culture-based student worksheets is appropriate for students to use in the learning process and is expected to increase student activity in learning mathematics. In this case, education and culture are an inseparable unit.Culture-based learning is learning that allows teachers and students to actively participate based on what they already know, so that optimal learning outcomes are obtained.In addition, culture-based learning will certainly provide an introduction and understanding for students about the culture that exists in the

surrounding environment so that it can have a positive influence on the cultivation of the character of students who have a noble culture Ayuningtyas & Setiana (2019).

Based on the results of interviews and observations conducted on April 5th, 2021 at SMP N 2 Kampar Utara to mathematics teachers, there are still many students who do not like learning mathematics because they feel learning mathematics is very difficult and boring. In addition, information was also obtained that students' understanding of mathematical concepts was still low in the quadrilateral and triangle material. This happens because there are no practical and effective teaching materials from the teacher as a guide for students in learning mathematics. The teaching materials used in learning are math textbooks that can only be borrowed from schools in limited quantities. Another problem faced is about working on student worksheets that must be guided by the teacher. Meanwhile, the K13 curriculum has been decided to be a reference in learning, but it is not fully used because it sees the suitability and condition of students. Student worksheets still depend on textbooks in which there are questions that are difficult to do and to understand so that many students do not do the assignments given.During the observation, information was also obtained that there were no student worksheets that were used in a cultural context. Therefore, the student worksheets that were developed by researchers are student worksheets based Riau cultural context in the quadrilateral and triangle material at class VII SMP. Riau cultural context which was taken and related to the material of the quadrilateral and triangle is the cultural context of the Riau Traditional House.

There are still many students at the junior high school level who do not know the surrounding cultures. To know culture, students get it from cultural arts subjects Astuti, Zulfah, & Rian (2021). The existence of student worksheets with a cultural context is one form of introducing culture. In this study, the culture taken is the cultural context of traditional houses in Riau. The cultural context of Riau Traditional House is taken because the traditional house is one of Riau's cultural identities that must be preserved. In traditional house buildings, there are mathematical concepts that are in accordance with the material of Quadrilateral and Triangle including, Square, Triangle, Trapezoid, Rectangle and others. As for some parts of the shape of the building, namely the shape of the front roof rafters in the form of a triangle and a trapezoid, the shape of the roof on the left and right is in the form of a parallelogram, the door is in the shape of a rectangle, and the windows of a traditional house are in the shape of a square and a rectangle. From the various forms of the traditional house, it can be concluded that Riau Traditional House building can be associated with quadrilateral and triangular materials in mathematic learning.

2. METHODS

This type of research is research and development. According to Sugiyono (2017), research and development methods are research methods used to produce certain products and test the effectiveness of these products. In this research, the development model used was adapted from the model developed by Plomp. The Plomp model consists of three stages, namely the initial analysis stage (Preliminary Research), the development or prototype creation stage (Development or Prototyping Stage), and the assessment stage (Assessment Stage) (Plomp & Nieveen, 2013). In the prototype development stage (Prototyping Phase), a series of prototypes are developed. The prototype is evaluated with reference to formative evaluation, which has several stages or layers depicted in Figure 1.

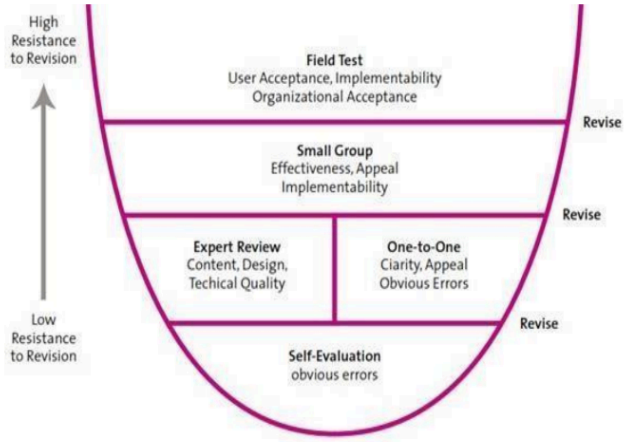


Figure 1. Formative Evaluation Layers of Plomp Development. (Zulfah, 2020)

This research was carried out at SMP N 2 Kampar Utara in the even semester of the 2020/2021 academic year, which ran from February to June 2021. This research was conducted in class VII of SMP N 2 Kampar Utara. Research procedures explain the steps taken during the research. This procedure consists of three stages, namely the initial analysis stage, the development or prototyping stage, and the assessment stage. The procedures for this research can be seen in Table 1.

Table 1. Procedure of the Research

Phase	Criteria	Description of Activity	Instrument
Preliminary Research	Emphasis on content validity	Needs analysis, curriculum analysis, student analysis, concept analysis, and analysis of existing teaching materials.	*Check list*
Development/ Prototyping Phase	Focus on validity and practicality	Evaluation of the prototype in terms of validity, which is carried out through Self-Evaluation and Expert Review. After being revised according to the standard of validity, it is continued with a practical assessment of student worksheets which is carried out through One-to-one Evaluation and Small Group Evaluation.	Validation sheets, questionnaires and interviews.
Assessment Phase	Practicality and effectiveness	Assess whether the product has been practical and effective through the field test stage (Field Test)	Questionnaires, guidelines, interviews, student worksheets

Resource: Zulfah (2020)

Data collection techniques in this research were carried out through observation and distributing questionnaires. The data analysis technique used is qualitative descriptive analysis. The results of data analysis are used as a basis for revising the products being developed. For assessment guidelines, see Table 2.

Table 2. Student Worksheet Validation Score

No	Option	Score
1	Strongly agree	4
2	Agree	3
3	Don't agree	2
4	Strongly Disagree	1

The scores given range from one to four, representing strongly disagree, disagree, agree, and strongly agree. Interval data can be analyzed by calculating the average score based on the experts' answers. To determine the value of data analysis can be calculated by the following formula:

$$R = \frac{\sum_{i=1,\ j=1}^{i=m,j=n} V_{ij}}{mn}$$

Information:
R = Average assessment results from experts/practitioners
V_ij = Score of the jth expert/practitioner scores against the ith criteria
n = Number of experts providing assessments
m = number of criteria

The criteria for obtaining the level of validity of student worksheets can be seen in Table 3.

Table 3. Criteria for Validity of Student Worksheets

Average Rating	Interpretation
R > 3,20	Very Valid
2,40 < R ≤ 3,20	Valid
1,60 < R ≤ 2,40	Quite Valid
0,80 < R ≤ 1,60	Less Valid
R ≤ 0,80	Invalid

Resources: (Mulyardidalam(Zulfah, 2020)

Teacher and student response questionnaires are prepared in the form of a Likert scale. This scale is arranged in a positive category so that positive statements receive weight according to what Arikunto said in Zulfah (2020). Guidelines for practical assessment can be seen in Table 4.

Table 4. Practicality Assessment Score

No	Option	Score
1	Strongly agree	4
2	Agree	3
3	Don't agree	2
4	Strongly Disagree	1

The practicality questionnaire of the student worksheets was described using the data frequency analysis technique with the formula below.

$$P = \frac{\text{R}}{\text{SM}} \times 100\%$$

Information:
P = Practikality score
R = Score obtained
SM = Maximum Score

(Purwanto, 2012)

The criteria for obtaining practical results can be seen in Table 5.

Table 5. Practical criteria for student worksheets

Achievement Rate (%)	Percentage Range
$85 \leq P \leq 100$	Very Practical
$75 \leq P < 85$	Practical
$60 \leq P < 75$	Practical enough
$55 \leq P < 65$	Less Practical
$0 \leq P < 55$	Not Practical

Resource:(Purwanto, 2012)

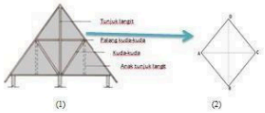
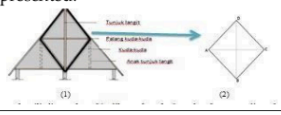
3. FINDINGS AND DISCUSSION

Before developing student worksheets based on the context of Riau traditional house on the Quadrilateral and Triangle materials for Class VII SMP, a preliminary study or needs analysis was carried out by conducting observations and interviews with several class VII students and Mathematics teachers at SMP Negeri 2 Kampar Utara. The results of the development research on the Quadrilateral and Triangle Materials for Class VII SMP can be seen from the results of the preliminary analysis (Preliminary Research), the results of the development phase (Prototyping Phase), and the results of the assessment phase (Assessment Phase). In the Preliminary Research

analysis activities, needs analysis, student analysis, curriculum analysis, and concept analysis were carried out. From this activity, it is concluded that students need a teaching material in the form of student worksheets that can help them in the learning process. Student worksheets are expected to be related to real life and guide students to be able to solve the problems given correctly.

In the development stage (Prototyping Phase), student worksheets using the Riau traditional house context are designed based on core competencies and basic competencies to achieve optimal learning goals. Student worksheets using the context of Riau traditional house which was developed according to the criteria set both in terms of content as well as language and culture. At this stage of development, a self-evaluation stage will be carried out which will produce prototype 1. After conducting self-evaluation and revising the student worksheets, the student worksheet will be validated by an expert (Expert Review). Validation of student worksheets is carried out to assess the feasibility of the product being developed. Validation of student worksheets was carried out by 8 experts consisting of 5 mathematics lecturers and 3 language and culture lecturers. Based on the validation results, there are several comments and suggestions from validators for revising student worksheets which are listed in table 6 below.

Table 6. Validator Comments and Suggestions on Student Worksheets Based on the Riau Traditional House Context on Rectangles and Triangles

No.	Suggestions	Revision
Content and Graphic Aspects		
1.	Fix the location of the context used on the cover, don't put it at the bottom, place it at the top to make it more visible what context is used. 	Revisions were made to the layout of the title on the cover. 
2.	Make the steps in the image used	Revise the stages of the image used
3.	If using a picture, make a line according to the flat shape used. 	Revising the sequence of images by marking them in the form of colored lines to make it more visible what is being presented. 

Language and Cultural Aspects		
1.	Fix spelling mistakes	Corrected the writing that is still wrong
2.	Pay attention to good and correct spelling	Corrected spelling
3.	Inconsistent typeface and layout	Improvements were made to the typeface and letter layout
4.	Complete the incomplete sentences, for example the sentence in question number one. 	Do the addition of the right sentence in question number one and in the other sentences. 

Based on the suggestions above, revisions were made to the student worksheets. After revision, the validators then provide an assessment of the validity of the student worksheet which uses the context of Riau traditional houses.

Characteristics of Student Worksheets by Using the Context of a Valid Riau Traditional House

Student worksheets produced using the context of Riau traditional houses have been declared valid based on content aspects. It is reasonable because it has been designed according to competency standards;therefore the objectives of learning mathematics are increased. In the presentation/graphic aspect based on the validation results by the validator, the student worksheets were valid and accordance with the predetermined graphic aspects. In the next aspect, namely the language and cultural aspects, the students' worksheets were obtained by using the context of the Riau traditional house which was in accordance with the provisions of the linguistic aspect. Through improvements based on the results of validation with a validator, the student worksheets obtained are in accordance with the provisions of Enhanced Spelling and in accordance with the cultural aspects presented. Student worksheets that use the context of Riau traditional houses fulfill the rules for writing terms, symbols and mathematical equations.

Based on the assessment of 8 expert validators, namely 5 content and graphic expert validators and 3 linguistic and cultural expert validators, the results obtained that in general the entire student worksheet by using the context of the Riau traditional house was declared very valid with an average validity of the content aspect of 3,42 with a very valid category. The results of expert validation can be seen in Table 7.

Table 7. Results of Content and Graphic Expert Validation

Aspect	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Score	Value
Content and Graphics	3,45	3,05	3,60	3,40	3,60	**17,1**	**3,42**

Based on table 7, it can be seen that the results of the validation of content and graphic experts on student worksheets using the context of the Riau traditional house obtained a value of 3.42 with a very valid category. Furthermore, the results of the validation of linguists and cultural experts can be seen in table 8.

Table 8. Validation Results of Language and Cultural Experts

Aspect	Expert 1	Expert 2	Expert 3	Score	Value
Content and Graphics	3,50	3,25	3,00	**9,25**	**3,25**

Based on table 8, it can be seen that the validation results of language and cultural experts, namely 3.25 are included in the very valid category.

Characteristics of Student Worksheets that Use the Practical Context of Riau Traditional Houses

Tests on the practicality Student worksheet that uses the context of Riau traditional houses were carried out on students consisting of 3 students at the One-to-One Evaluation stage and 6 students at the Small Group Evaluation stage and practicality by one mathematics teacher.Based on the results of the evaluation in the One-to-One stage, the percentage value was 87.5% with a very practical category. The results of the evaluation at the one-to-one stage can be seen in Table 8.

Table 8. The average results of the practicality of student worksheets using the context of the Riau Traditional House by all students in the One-to-One Stage

No	Material	Practicality Percentage
1.	**Quadrilaterals**	88,3%
2.	**Triangles**	86,7%
Average Percentage		**87,5%**
Category		**SP**

After conducting the evaluation at the one-to-one stage, then an evaluation was carried out at the small group stage which got a percentage value of 87.6% with a very practical category which can be seen in Table 9.

Table 9. Average Appropriateness of Student Worksheets Using the Riau Traditional House Context by All Students at the Small Group Stage

No	Material	Practicality Percentage
1.	Quadrilaterals	87,3%
2.	Triangles	87,8%
Average Percentage		**87,6%**
Category		**SP**

After conducting evaluation at one-to-one and small group stages, an evaluation of the mathematics teacher was then carried out. In the results of the questionnaire assessment by the teacher, the percentage results were 87.5% with a very practical category. The results of the evaluation of mathematics teachers can be seen in Table 10.

Table 10. Practical results of student worksheets by Mathematics teachers

No	Statement	Score
1.	The appearance of the cover page of the student worksheet which uses the context of a Riau traditional house attracts attention.	4
2.	Each student worksheet title by using the context of Riau traditional house is displayed clearly so that it can describe the contents of the student worksheet.	4
3.	The placement of the layout (title, subtitle, text, image, page number) of the student worksheet is consistent according to a certain pattern.	3
4.	Student worksheets that use the context of Riau traditional houses use language that is easy to understand.	4
5.	Student worksheets that use the context of Riau traditional houses use simple sentences that are easy for students to understand.	3
6.	Instructions for student activities in student worksheets are presented clearly and make it easier for students to carry out the activities contained in the worksheet.	3
7.	The presentation of culture on student worksheets is in accordance with the Quadrilateral and Triangle material.	4
8.	The material presented in student worksheets uses the context of Riau traditional houses according to the student's ability level.	4
9.	Student worksheets that use the context of Riau traditional houses can hone students' skills in understanding mathematical concepts.	3
10.	This student worksheet by using the context of Riau traditional house encourages students to be enthusiastic on learning about the Quadrilateral and Triangle material	3
	Final Score	**35**
	Percentage	**87,5 %**
	Category	**SP**

The student worksheet by using the context of Riau traditional house is stated to be practical without revision with comments and suggestions, which is quite good and easy to understand by students. So it has been declared practical to use. Based on the results obtained from the small group stage with the practical to very practical category, the student worksheet by using the context of Riau traditional house has been declared practical and feasible to use.

The Effectiveness of Student Worksheets by Using the Context of Riau Traditional Houses

This research has produced effective student worksheets using the context of Riau traditional houses, which can have a positive impact on student learning outcomes in rectangles and triangles for class VII SMP. This product was declared effective after passing the field test stage. During the field test, student worksheets were given to classes whose students were in the individual and small group testing stages. After being given student worksheets and used in the learning process, the next step is to give post-test questions to students, this is done to see if there is an effect from not using student worksheets after using student worksheets. If there is an effect then this student worksheet is declared effective. In this study, student worksheets developed in the context of the Riau traditional house have been declared effective, because the students' pre test and post test scores showed a significant influence on their learning outcomes. The effect of using student worksheets is seen from the results of the Man-Whitney test. Based on the results of the Man-Whitney test, it was obtained that the value of a symp.sig. (2-tailed) was 0.000. In this case, if the value of a symp.sig.(2-tailed) < 0.05, it can be concluded that the hypothesis is accepted. Thus, it can be concluded that there are differences in student learning outcomes between the experimental class which was treated using student worksheets in the Riau traditional house context and the control class which was not treated using

student worksheets in the Riau traditional house context. It can be concluded that the use of worksheets related to Riau traditional houses is effective in increasing students' understanding of mathematical concepts.

Based on the explanation above, the results show that the students worksheet by using the context of Riau traditional house give contribution in teaching and learning mathematic. According to Widyastuti (2021), culture has important role in education. If there is high culture, there is high education. Wiest (2001) states that cultural context can be used for teaching and learning mathematic. Teaching mathematic can be adopted from multiple cultural perspective. Mathematic learning can be required through cultural knowledge. Traditional house as one part of culture has mathematic practice which can be used as the material in teaching and learning proces. The student worksheets developed are very helpful for students to understand mathematical concepts so that they can improve student learning outcomes, the results of Talo's research in 2022 that with ethno mathematics-based student worksheets can improve learning outcomes for fourth grade elementary school students Talo et al. (2022).

The use of student worksheets related to Riau traditional houses has improved the quality of mathematics learning. Students can focus their attention on a worksheet that displays a picture of a Riau traditional house, which then raises their curiosity. Activities like this help students focus more on learning and make it easier for them to understand the material being taught. This is supported by Acharya, Kshetree, Khanal, Panthi, & Belbase (2021), who revealed that there is a positive view of the relevance of culture in mathematics learning at the elementary level. Quality mathematics learning must be supported by various aspects, one of which is professional teachers who can utilize learning resources and develop teaching materials. Friansyah & Luthfiana (2018) hope that teachers can utilize the surrounding environment or culture as teaching material in learning mathematics. Mathematics develops in line with local culture, as explained by Marsigit (2016).

4. CONCLUSION

Research on developing student worksheets using the context of Riau traditional houses on rectangular and triangular material developed using the Plomp model aims to produce teaching materials in the form of student worksheets that are valid, practical and effective. The results of this study indicate that the student worksheets developed are very valid by eight experts as validators, very practical by students and mathematics teachers. The developed student worksheets are also very effective for learning mathematics on quadrilaterals and triangles. By using this student worksheet, students can improve their mathematical concepts. This research only focuses on quadrilateral and triangle material. It is hoped that further research can develop student worksheets with other materials so that many student worksheets are developed to help students understand mathematical material.

REFERENCES

Acharya, B. R., Kshetree, M. P., Khanal, B., Panthi, R. K., & Belbase, S. (2021). Mathematics educators' perspectives on cultural relevance of basic level mathematics in Nepal. *Journal on Mathematics Education*, *12*(1), 17–48. https://doi.org/10.22342/JME.12.1.12955.17-48

Astuti, A. (2021). Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis Problem Based Learning (PBL) untuk Kelas VII SMP/MTs Mata Pelajaran Matematika. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *5*(2), 1011–1024. https://doi.org/10.31004/cendekia.v5i2.573

Astuti, A., & Sari, N. (2017). Pengembangan Lembar Kerja Siswa (Lks) Pada Mata Pelajaran Matematika Siswa Kelas X Sma. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *1*(2), 13–24. https://doi.org/10.31004/cendekia.v1i2.16

Astuti, A., Zulfah, Z., & Rian, D. (2021). Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis Etnomatematika pada Materi Bangun Ruang Sisi Datar Kelas VIII SMP Negeri 11 Tapung. *Jurnal Pendidikan Tambusai*, *5*(3), 9222–9231. https://doi.org/10.31004/jptam.v5i3.2452

Ayunda, F., & Jelita, L. (2020). Pengembangan lembar kerja peserta didik (LKPD) berbasis kearifan lokal untuk siswa sekolah dasar. *Sekolah PGSD FIP UNIMED*, *4*(4), 70–77.

Ayuningtyas, A. D., & Setiana, D. S. (2019). Pengembangan Bahan Ajar Matematika Berbasis Etnomatematika Kraton Yogyakarta. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *8*(1), 11–19. https://doi.org/10.24127/ajpm.v8i1.1630

Disnawati, H., & Nahak, S. (2019). Pengembangan Lembar Kerja Siswa Berbasis Etnomatematika Tenun Timor pada Materi Pola Bilangan. *Jurnal Elemen*, *5*(1), 64. https://doi.org/10.29408/jel.v5i1.1022

Friansyah, D., & Luthfiana, M. (2018). Desain Lembar Kerja Siswa Materi Sistem Persamaan Dua Variabel Berorientasi Etnomatematika. *Jurnal Pendidikan Matematika (JUDIKA EDUCATION)*, *1*(2), 83–92. https://doi.org/10.31539/judika.v1i2.322

Kamarullah, K. (2017). Pendidikan Matematika di Sekolah Kita. *Al Khawarizmi: Jurnal Pendidikan Dan Pembelajaran Matematika*. https://doi.org/10.22373/jppm.v1i1.1729

Marsigit, M. (2016). Pembelajaran matematika dalam perspektif kekinian. *Math Didactic: Jurnal Pendidikan Matematika*, *2*(3), 132–141. https://doi.org/10.33654/math.v2i3.40

Nahak, H. (2019). Upaya Melestarikan Budaya Indonesia si Ers Globalisasi. *Jurnal Sosiologi Nusantara*, *5*(1), 65–76. https://doi.org/10.33369/jsn.5.1.65-76

Plomp, T., & Nieveen, N. (2013). *An Introduction to Educational Design Research*. Netherlands: Enschede: Netherland Institute for Curriculum Development (SLO).

Purwanto, N. (2012). *Prinsip-prinsip dan Teknik Evaluasi Pengajaran*. Bandung: Bandung: Alfabeta.

Rewatus, A., Leton, S. I., Fernandez, A. J., & Suciati, M. (2020). Pengembangan Lembar Kerja Peserta Didik Berbasis Etnomatematika Pada Materi Segitiga dan Segiempat. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 645–656. https://doi.org/10.31004/cendekia.v4i2.276

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R & D*. Bandung: Bandung: Alfabeta, CV.

Talo, Y. A., Ardana, I. M., Kertih, I. W., Studi, P., Dasar, P., & Ganesha, U. P. (2022). *Berbasis Etnomatematika Batu Kubur Dan Rumah Adat*. *6*(1), 84–93.

Wandari, A., Kamid, K., & Maison, M. (2018). Pengembangan Lembar Kerja Peserta Didik (LKPD) pada Materi Geometri berbasis Budaya Jambi untuk Meningkatkan Kreativitas Siswa. *Edumatika : Jurnal Riset Pendidikan Matematika*, *1*(2), 47. https://doi.org/10.32939/ejrpm.v1i2.232

Widyastuti, M. (2021). *Peran Kebudayaan Dalam Dunia Pendidikan The Role of Culture in The Word of Education*. *1*(1), 54–64.

Wiest, L. R. (2001). Teaching mathematics from a multicultural perspective. *Equity and Excellence in Education*, *34*(1), 16–25. https://doi.org/10.1080/1066568010340103

Zulfah. (2020). *Pengembangan Lembar Kerja Peserta Didik Berbasis Problem Based Learning*. Sukabumi: Sukabumi : Haura Publishing.

Zulfah, Z., & Insani, S. U. (2020). Pengembangan Soal Matematika Berbasis Kearifan Lokal dan Daya Tarik Wisata Riau Pada Tahap Preliminary Research. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 797–799. https://doi.org/10.31004/cendekia.v4i2.311

Judul artikel astuti

ORIGINALITY REPORT

23%	24%	15%	6%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

16%

★ journal.staihubbulwathan.id

Internet Source

Exclude quotes	On	Exclude matches	< 1%
Exclude bibliography	On		

Al-Ishlah: JurnalPendidikan
Vol.14, 4 (December, 2022), pp. 5743-5754
ISSN: 2087-9490 EISSN: 2597-940X, DOI: 10.35445/alishlah.v14i4.1779

Development of Student Worksheets by Using the Context of Riau Traditional Houses on Quadrilaterals and Triangles

Astuti Astuti[1], Zulfah Zulfah[2], Nur Fitriana[3]

[1] Universitas Pahlawan Tuanku Tambusai, Indonesia; astutimasnur@g-mail.com
[2] Universitas Pahlawan Tuanku Tambusai, Indonesia; zulfahasni670@gmail.com
[3] Universitas Pahlawan Tuanku Tambusai, Indonesia; anurfitri76@gmail.com

ARTICLE INFO

Keywords:

Developing Students' Worksheet;
Riau Traditional House;
Quadrilaterals;
Triangles

Article history:

Received 2021-08-20
Revised 2022-01-12
Accepted 2022-12-05

ABSTRACT

This study aims to produce teaching materials in the form of student worksheets by using the context of Riau traditional house on the material of quadrilaterals and triangles for class VII of Junior High School. This developmental research uses Plomp model which consists of a preliminary analysis stage, development stage, and assessment stage. The test subjects in this study were seventh grade students of SMP N 2 Kampar Utara which consisted of 18 students and one mathematics teacher. The subjects of this research were seventh grade students of SMP N 2 Kampar Utara which consisted of 18 students and one Mathematics teacher. The result of this study is to produce student worksheets by using Riau traditional house context on valid, practical, and effective quadrilateral and triangle material.It can be seen that based on the results of the validation of content experts, an average of 3.42 was obtained in the very valid category, the results of the validation of linguists and cultural experts obtained an average of 3.25 which was included in the very valid category.The results of the practicality of student worksheets at the One-to-One and Small Group stages are 87.6% which are included in the very practical category, and the results of the practicality of student worksheets by the teacher are 87.5% in the very practical category. Furthermore, based on the results of effectiveness, it was found that student worksheets using the context of the Riau traditional house were very effective and suitable for use in the classroom.

Corresponding Author:
ZulfahZulfah
Universitas Pahlawan Tuanku Tambusai, Indonesia; zulfahasni670@gmail.com

1. INTRODUCTION

Education is a form of a learning process that seeks students to be active in developing themselves so that they have knowledge that can change educated attitudes and behaviour and increase competitiveness. One of the fields of science that plays important role in the world of education is Mathematics Kamarullah (2017). Mathematics is an exact science that is the basis of all knowledge studied. Mathematics plays an important role in the world of education and technological development Wandari, Kamid, & Maison (2018). Mathematics has an important role in everyday life, where almost everything around us is related to mathematics, including community culture Rewatus,

Leton, Fernandez, & Suciati (2020).Realizing the importance of the role of mathematics, optimizing student learning outcomes in mathematics at every level of education needs serious attention so that national education goals can be achievedAstuti & Sari (2017).

Mathematics learning is more lively and fun when there is a new innovation in it.One aspect that can be developed for this learning innovation is local culture or also known as local wisdom.Culture or local wisdom as part of Indonesian culture, which is rich in diversity and pluralism, whose existence is currently being questionedZulfah & Insani (2020). By the influence of culture from outside, slowly they begin to forget their own culture which should be developed.The reality today, many Indonesian people prefer a culture that they consider more interesting or more unique and practical.Many local cultures have faded as a result of the lack of young generations who have an interest in learning and inheriting itNahak (2019).

One of the contributing factors is that the learning that is carried out in school is still oriented by teacher. This happens because of the lack of students' knowledge on the various benefits of mathematics which are closely related to culture. An effort as the solution is the teacher's role in learning process is very important. Teacher must prepare learning media that are good and suitable with the material and conditions of students such as teaching materials.Rewatus et al.,(2020: 646)state that the ways that teachers can do is developing teaching materials that using an approach in the process of developing teaching materials, which is in accordance with the material to be delivered. One of the teaching materials that can be developed by teachers is student worksheet.

Student worksheet is one of the printed teaching materials that can be used to make it easier for students to understand the material givenAstuti (2021). By student worksheets, students can also be guided to rediscover a concept. student worksheets can make it easier for teachers to carry out the learning process Zulfah (2020). Student worksheets not only contain questions but also material, descriptions, and exercises that must be done by studentsWandari et al. (2018). The development of student worksheets is very necessary in the world of education. Student worksheets are expected to meet the characteristics of the 2013 curriculum, namely increasing equality between the development of spiritual and social attitudes, curiosity, creativity, cooperation with intellectual and psychomotor abilities.

Student worksheets based on the context of the Riau traditional house are designed by integrating the various forms found in the Riau traditional house into subjects to introduce students to the forms of Riau traditional houses that must be preserved. According to Ayunda & Jelita (2020: 71),the values contained in student worksheets can be a basis for developing a learning process. However, nowadays there are still very few schools that apply learning by using a cultural context,therefore, many students do not know the culture that exists in their area.

Some researches discussed that there is contribution of culture in Mathematic learning. Wandari et al., (2018: 54)state that by incorporating culture into mathematics learning, students can understand mathematics learning in a fun and easy way. Students can find out more about the culture of their own region. In addition, student worksheets based on culture are feasible to use and get a positive response from students and increase student learning outcomes.Disnawati & Nahak (2019: 77)Culture-based student worksheets can improve students' understanding; the developed student worksheets also received positive responses from students where they are more motivated to learn mathematics because there is a cultural element in it. Furthermore, Rewatus et al., (2020: 655)stated that the difficulty for students in connecting mathematics with real life becomes the main factor in the importance of culture-based learning.The development of culture-based student worksheets is appropriate for students to use in the learning process and is expected to increase student activity in learning mathematics. In this case, education and culture are an inseparable unit.Culture-based learning is learning that allows teachers and students to actively participate based on what they already know, so that optimal learning outcomes are obtained.In addition, culture-based learning will certainly provide an introduction and understanding for students about the culture that exists in the

surrounding environment so that it can have a positive influence on the cultivation of the character of students who have a noble culture Ayuningtyas & Setiana (2019).

Based on the results of interviews and observations conducted on April 5th, 2021 at SMP N 2 Kampar Utara to mathematics teachers, there are still many students who do not like learning mathematics because they feel learning mathematics is very difficult and boring. In addition, information was also obtained that students' understanding of mathematical concepts was still low in the quadrilateral and triangle material. This happens because there are no practical and effective teaching materials from the teacher as a guide for students in learning mathematics. The teaching materials used in learning are math textbooks that can only be borrowed from schools in limited quantities. Another problem faced is about working on student worksheets that must be guided by the teacher. Meanwhile, the K13 curriculum has been decided to be a reference in learning, but it is not fully used because it sees the suitability and condition of students. Student worksheets still depend on textbooks in which there are questions that are difficult to do and to understand so that many students do not do the assignments given.During the observation, information was also obtained that there were no student worksheets that were used in a cultural context. Therefore, the student worksheets that were developed by researchers are student worksheets based Riau cultural context in the quadrilateral and triangle material at class VII SMP. Riau cultural context which was taken and related to the material of the quadrilateral and triangle is the cultural context of the Riau Traditional House.

There are still many students at the junior high school level who do not know the surrounding cultures. To know culture, students get it from cultural arts subjects Astuti, Zulfah, & Rian (2021). The existence of student worksheets with a cultural context is one form of introducing culture. In this study, the culture taken is the cultural context of traditional houses in Riau. The cultural context of Riau Traditional House is taken because the traditional house is one of Riau's cultural identities that must be preserved. In traditional house buildings, there are mathematical concepts that are in accordance with the material of Quadrilateral and Triangle including, Square, Triangle, Trapezoid, Rectangle and others. As for some parts of the shape of the building, namely the shape of the front roof rafters in the form of a triangle and a trapezoid, the shape of the roof on the left and right is in the form of a parallelogram, the door is in the shape of a rectangle, and the windows of a traditional house are in the shape of a square and a rectangle. From the various forms of the traditional house, it can be concluded that Riau Traditional House building can be associated with quadrilateral and triangular materials in mathematic learning.

2. METHODS

This type of research is research and development (Research and Development). According to Sugiyono (2017),research and development methods are research methods used to produce certain products and test the effectiveness of these products. In this study, the development model used was adapted from the model developed by Plom. The Plom model consists of three stages, namely the preliminary analysis phase (Preliminary Research), the development or prototype phase (Development or Prototyping Phase), and the assessment phase (Assessment Phase)Plomp & Nieveen (2013). n the prototype development phase (Prototyping Phase), a series of prototypes are developed. The prototype is evaluated with reference to formative evaluation. Formative evaluation has several stages or layers which are illustrated in Figure 1.

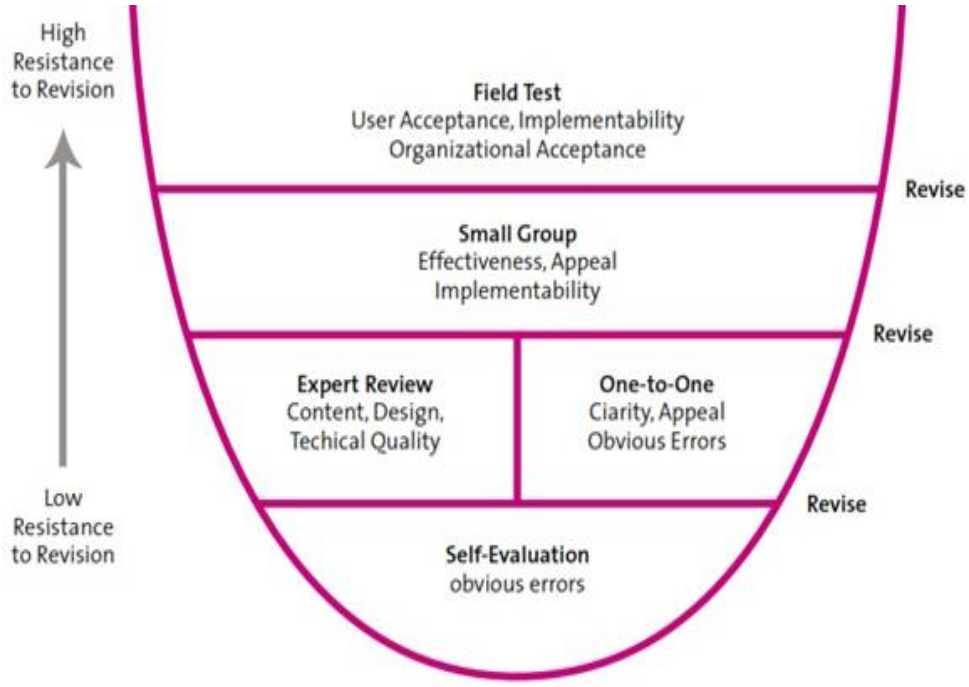


Figure 1. Layers of Formative Evaluation of Plomp . Development(Zulfah, 2020)

This research was conducted at SMP N 2 Kampar Utara. The time of this research was carried out in the even semester of the 2020/2021 academic year starting from February-June 2021. This research was carried out in class VII SMP N 2 Kampar Utara. The research procedure contains a description of the steps taken in the research. This research procedure consists of three stages, namely the preliminary analysis phase, the development or prototype-making phase, and the assessment phase. The research procedure can be seen in Table 1

Table 1. Procedure of the Research

Phase	Criteria	Description of Activity	Instrument
Preliminary Research	Emphasis on content validity	Needs analysis, curriculum analysis, student analysis, concept analysis and analysis of existing teaching materials	*Check list*
Development/ Prototyping Phase	Focus on validity and practicality	Evaluation of the prototype in terms of validity, which is carried out through Self-Evaluation and Expert Review. After being revised according to the standard of validity, it is continued with a practical assessment of student worksheets which is carried out through One-to-one Evaluation and Small Group Evaluation.	Validation sheets, questionnaires and interviews.
Assessment Phase	Practicality and effectiveness	Assess whether the product has been practical and effective through the field test stage (Field Test)	Questionnaires, guidelines, interviews, student worksheets

Resource: Zulfah (2020)

The technique of collecting data in this research is by doing observation and distributing questionnaires. The data analysis technique used a qualitative descriptive analysis technique. The results of data analysis are used as the basis for revising the developed product. For assessment guidelines, see Table 2.

Table 2. Student Worksheet Validation Score

No	Option	Score
1	Strongly agree	4
2	Agree	3
3	Don't agree	2
4	Strongly Disagree	1

The score given is one to four for strongly disagree, disagree, agree, and strongly agree. The interval data can be analyzed by calculating the average score based on the answers of the experts. To determine the value of data analysis can be calculated by the following formula:

$$R = \frac{\sum_{i=1,\ j=1}^{i=m,j=n} V_{ij}}{mn}$$

Information:
R = Average assessment results from experts/practitioners
V_ij = Score of the jth expert/practitioner scores against the ith criteria
n = Number of experts who judged
m = number of criteria

The criteria for obtaining the level of validity of student worksheets can be seen in Table 3.

Table 3. Criteria for Validity of Student Worksheets

Average Rating	Interpretation
R > 3,20	Very Valid
2,40 < R ≤ 3,20	Valid
1,60 < R ≤ 2,40	Quite Valid
0,80 < R ≤ 1,60	Less Valid
R ≤ 0,80	Invalid

Resources: (Mulyardidalam(Zulfah, 2020)

The teacher and student response questionnaires are arranged in the form of a Likert scale. This scale is arranged in a positive category so that positive statements get the weight according to what Arikunto stated inZulfah (2020). For practicality assessment guidelines can be seen in Table 4.

Table 4. Practicality Assessment Score

No	Option	Score
1	Strongly agree	4
2	Agree	3
3	Don't agree	2
4	Strongly Disagree	1

The practicality questionnaire of the student worksheets was described using the data frequency analysis technique with the formula below.

$$P = \frac{\mathrm{R}}{\mathrm{SM}} \times 100\%$$

Information:
P = Practikality score
R = Score obtained
SM = Maximum Score

(Purwanto, 2012)

The criteria for obtaining practical results can be seen in Table 5.

Table 5. Practical criteria for student worksheets

Achievement Rate (%)	Percentage Range
$85 \leq P \leq 100$	Very Practical
$75 \leq P < 85$	Practical
$60 \leq P < 75$	Practical enough
$55 \leq P < 65$	Less Practical
$0 \leq P < 55$	Not Practical

Resource:(Purwanto, 2012)

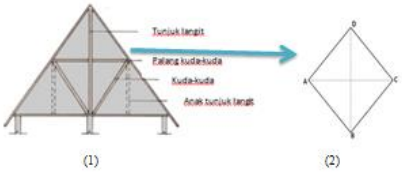
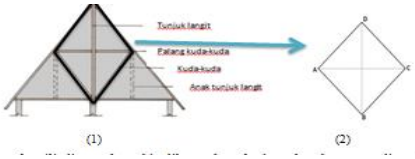
3. FINDINGS AND DISCUSSION

Before developing student worksheets based on the context of Riau traditional house on the Quadrilateral and Triangle materials for Class VII SMP, a preliminary study or needs analysis was carried out by conducting observations and interviews with several class VII students and Mathematics teachers at SMP Negeri 2 Kampar Utara. The results of the development research on the Quadrilateral and Triangle Materials for Class VII SMP can be seen from the results of the preliminary analysis (Preliminary Research), the results of the development phase (Prototyping Phase), and the results of the assessment phase (Assessment Phase). In the Preliminary Research

analysis activities, needs analysis, student analysis, curriculum analysis, and concept analysis were carried out. From this activity, it is concluded that students need a teaching material in the form of student worksheets that can help them in the learning process. Student worksheets are expected to be related to real life and guide students to be able to solve the problems given correctly.

In the development stage (Prototyping Phase), student worksheets by using the context of the Riau traditional house are designed based on core competencies and basic competencies in order to achieve optimal learning objectives. Student worksheets using the context of Riau traditional house which was developed according to the criteria set both in terms of content as well as language and culture. At this stage of development, a self-evaluation stage will be carried out which will produce prototype 1. After conducting self-evaluation and revising the student worksheets, the student worksheet will be validated by an expert (Expert Review). Validation of student worksheets is carried out to determine the feasibility of a product being developed. Validation of student worksheets was carried out by 8 experts consisting of 5 mathematics lecturers and 3 language and culture lecturers. Based on the results of the validation, there are some comments and suggestions from the validator in order to revise the student worksheets as shown in table 6 below.

Table 6. Validator's Comments and Suggestions on Student Worksheets based on the Context of Riau Traditional House on the Materials of Quadrilaterals and Triangles

No.	Suggestions	Revision
Content and Graphic Aspects		
1.	Fix the location of the context used on the cover, don't put it at the bottom, place it at the top to make it more visible what context is used. 	Revisions were made to the layout of the title on the cover. 
2.	Make the steps in the image used	Revise the stages of the image used
3.	If using a picture, make a line according to the flat shape used. 	Revising the sequence of images by marking them in the form of colored lines to make it more visible what is being presented. 

Language and Cultural Aspects		
1.	Fix spelling mistakes	Corrected the writing that is still wrong
2.	Pay attention to good and correct spelling	Corrected spelling
3.	Inconsistent typeface and layout	Improvements were made to the typeface and letter layout
4.	Complete the incomplete sentences, for example the sentence in question number one. • Jawablah soal-soal berikut dengan jawaban yang tepat! 1) Perhatikan gambar! 	Do the addition of the right sentence in question number one and in the other sentences. • Jawablah soal-soal berikut dengan jawaban yang tepat! 1) Perhatikan gambar di bawah ini! 

Based on the suggestions above, revisions were made to the student worksheets. After the revision, the validators then gave an assessment of the validity of the student worksheets based on the context of Riau traditional houses.

Characteristics of Student Worksheets by Using the Context of a Valid Riau Traditional House

Student worksheets resultedby using Riau traditional house context have been declared valid based on the content aspect. It is reasonable because it has been designed according to competency standards;therefore the objectives of learning mathematics are increased. In the presentation/graphic aspect based on the validation results by the validator, the student worksheets were valid and accordance with the predetermined graphic aspects. In the next aspect, namely the language and cultural aspects, the students' worksheets were obtained by using the context of the Riau traditional house which was in accordance with the provisions of the linguistic aspect. Through the improvements based on the results of validation with the validator, the student worksheets have been obtained in accordance with the provisions of the Enhanced Spelling and in accordance with the cultural aspects presented. The student worksheets by using the context of the Riau traditional house are in accordance with the rules of writing terms, symbols, and mathematical equations.

Based on the assessment of 8 expert validators, namely 5 content and graphic expert validators and 3 linguistic and cultural expert validators, the results obtained that in general the entire student worksheet by using the context of the Riau traditional house was declared very valid with an average validity of the content aspect of 3,42 with a very valid category. The results of expert validation can be seen in Table 7.

Table 7. Results of Content and Graphic Expert Validation

Aspect	Expert 1	Expert 2	Expert 3	Expert 4	Expert 5	Score	Value
Content and Graphics	3,45	3,05	3,60	3,40	3,60	**17,1**	**3,42**

Based on table 7, it can be seen that the results of the validation of content and graphic experts on student worksheets using the context of the Riau traditional house obtained a value of 3.42 with a very valid category. Furthermore, the results of the validation of linguists and cultural experts can be seen in table 8.

Table 8. Validation Results of Language and Cultural Experts

Aspect	Expert 1	Expert 2	Expert 3	Score	Value
Content and Graphics	3,50	3,25	3,00	**9,25**	**3,25**

Based on table 8, it can be seen that the validation results of language and cultural experts, namely 3.25 are included in the very valid category.

Characteristics of Student Worksheets by Using the Practical Context of Riau Traditional Houses

Tests on the practicality of student worksheets using the context of the Riau traditional house were carried out on students consisting of 3 students at the One-to-One Evaluation stage and 6 students at the Small Group Evaluation stage and practicality by one mathematics teacher.Based on the results of the evaluation in the One-to-One stage, the percentage value was 87.5% with a very practical category. The results of the evaluation at the one-to-one stage can be seen in Table 8.

Table 8. The average results of the practicality of student worksheets using the context of the Riau Traditional House by all students in the One-to-One Stage

No	Material	Practicality Percentage
1.	**Quadrilaterals**	88,3%
2.	**Triangles**	86,7%
Average Percentage		**87,5%**
Category		**SP**

After conducting the evaluation at the one-to-one stage, then an evaluation was carried out at the small group stage which got a percentage value of 87.6% with a very practical category which can be seen in Table 9.

Table 9. Average Practicality of Student Worksheets Using the Context of Riau Traditional Houses by all Students in the Small Group Stage

No	Material	Practicality Percentage
1.	Quadrilaterals	87,3%
2.	Triangles	87,8%
Average Percentage		**87,6%**
Category		**SP**

After conducting evaluation at one-to-one and small group stages, an evaluation of the mathematics teacher was then carried out. In the results of the questionnaire assessment by the teacher, the percentage results were 87.5% with a very practical category. The results of the evaluation of mathematics teachers can be seen in Table 10.

Table 10. Practical results of student worksheets by Mathematics teachers

No	Statement	Score
1.	The display of the cover page of the student worksheet by using the context of Riau traditional house is interesting.	4
2.	Each student worksheet title by using the context of Riau traditional house is displayed clearly so that it can describe the contents of the student worksheet.	4
3.	The placement of the layout (title, subtitle, text, image, page number) of the student worksheet is consistent according to a certain pattern.	3
4.	Student worksheets by using the context of Riau traditional house used easy-to-understand language	4
5.	Student worksheets by using the context of Riau traditional house used simple sentences and easy for students to understand	3
6.	Instructions for student activities in the student worksheets are clear and can make it easier for students to carry out the activities contained in the student worksheets.	3
7.	The presentation of culture on student worksheets is in accordance with the Quadrilateral and Triangle material.	4
8.	The material presented in student worksheets by using the context of Riau traditional house is in accordance with the level of students' abilities	4
9.	Student worksheets by using the context of Riau traditional house can hone students' mathematical concept understanding skills.	3
10.	This student worksheet by using the context of Riau traditional house encourages students to be enthusiastic on learning about the Quadrilateral and Triangle material	3
	Final Score	**35**
	Percentage	**87,5 %**
	Category	**SP**

The student worksheet by using the context of Riau traditional house is stated to be practical without revision with comments and suggestions, which is quite good and easy to understand by students. So it has been declared practical to use. Based on the results obtained from the small group stage with the practical to very practical category, the student worksheet by using the context of Riau traditional house has been declared practical and feasible to use.

The Effectiveness of Student Worksheets by Using the Context of Riau Traditional Houses

This research has produced an effective student worksheets by using the context of Riau traditional house that can have a positive impact on student learning outcomes in the material of quadrilaterals and triangles for class VII SMP. This product is declared effective if it has reached the field test stage. During the field test, student worksheets were given to a class whose students are in the one-to-one and small group stages. After being given student worksheets and used in the learning process, the next step is to give post-test questions to students, this is done to see if there is an effect from not using student worksheets after using student worksheets. If there is an effect then this student worksheet is declared effective. In this study, student worksheets developed in the context of the Riau traditional house have been declared effective, because the students' pre test and post test scores showed a significant influence on their learning outcomes. The effect of using student worksheets is seen from the results of the Man-Whitney test. Based on the results of the Man-Whitney test, it was obtained that the value of a symp.sig. (2-tailed) was 0.000. In this case, if the value of a symp.sig.(2-tailed) < 0.05, it can be concluded that the hypothesis is accepted. Thus, it can be said that

there is a difference in student learning outcomes between the experimental class that was treated using student worksheets using the context of the Riau traditional house and the control class that was not treated using student worksheets using the context of the Riau traditional house. It was concluded that student worksheets using the context of the Riau traditional house were effectively used to increase students' understanding of mathematical concepts.

Based on the explanation above, the results show that the students worksheet by using the context of Riau traditional house give contribution in teaching and learning mathematic. According to Widyastuti (2021), culture has important role in education. If there is high culture, there is high education. Wiest (2001) states that cultural context can be used for teaching and learning mathematic. Teaching mathematic can be adopted from multiple cultural perspective. Mathematic learning can be required through cultural knowledge. Traditional house as one part of culture has mathematic practice which can be used as the material in teaching and learning proces. The student worksheets developed are very helpful for students to understand mathematical concepts so that they can improve student learning outcomes, the results of Talo's research in 2022 that with ethno mathematics-based student worksheets can improve learning outcomes for fourth grade elementary school students Talo et al. (2022).

The use of student worksheets in the context of the Riau traditional house has made a quality mathematics learning, students can focus their attention on student worksheets containing pictures of Riau traditional houses, so that their curiosity arises. Activities like this make students focus on learning so that they can make students understand the material presented. It is supported by Acharya, Kshetree, Khanal, Panthi, & Belbase (2021) who state that there is a positive perspective on cultural relevance of basic level mathematics. Quality mathematics learning must be supported by various aspects, one of which is a professional teacher who can utilize learning resources and develop teaching materials Friansyah & Luthfiana (2018) it is expected for teachers to be able to take advantage of the surrounding environment or culture to be teaching materials in learning mathematics. Mathematics grows and develops according to the local culture Marsigit (2016).

4. CONCLUSION

Research on the development of student worksheets using the context of the Riau traditional house on the quadrilateral and triangle material developed with the Plomp model aims to produce teaching materials in the form of valid, practical, and effective student worksheets. The results of this study indicate that the student worksheets developed are very valid by eight experts as validators, very practical by students and mathematics teachers. The developed student worksheets are also very effective for learning mathematics on quadrilaterals and triangles. By using this student worksheet, students can improve their mathematical concepts. This research only focuses on quadrilateral and triangle material. It is hoped that further research can develop student worksheets with other materials so that many student worksheets are developed to help students understand mathematical material.

REFERENCES

Acharya, B. R., Kshetree, M. P., Khanal, B., Panthi, R. K., & Belbase, S. (2021). Mathematics educators' perspectives on cultural relevance of basic level mathematics in Nepal. *Journal on Mathematics Education*, *12*(1), 17–48. https://doi.org/10.22342/JME.12.1.12955.17-48

Astuti, A. (2021). Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis Problem Based Learning (PBL) untuk Kelas VII SMP/MTs Mata Pelajaran Matematika. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *5*(2), 1011–1024. https://doi.org/10.31004/cendekia.v5i2.573

Astuti, A., & Sari, N. (2017). Pengembangan Lembar Kerja Siswa (Lks) Pada Mata Pelajaran Matematika Siswa Kelas X Sma. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *1*(2), 13–24. https://doi.org/10.31004/cendekia.v1i2.16

Astuti, A., Zulfah, Z., & Rian, D. (2021). Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis Etnomatematika pada Materi Bangun Ruang Sisi Datar Kelas VIII SMP Negeri 11 Tapung. *Jurnal Pendidikan Tambusai*, *5*(3), 9222–9231. https://doi.org/10.31004/jptam.v5i3.2452

Ayunda, F., & Jelita, L. (2020). Pengembangan lembar kerja peserta didik (LKPD) berbasis kearifan lokal untuk siswa sekolah dasar. *Sekolah PGSD FIP UNIMED*, *4*(4), 70–77.

Ayuningtyas, A. D., & Setiana, D. S. (2019). Pengembangan Bahan Ajar Matematika Berbasis Etnomatematika Kraton Yogyakarta. *AKSIOMA: Jurnal Program Studi Pendidikan Matematika*, *8*(1), 11–19. https://doi.org/10.24127/ajpm.v8i1.1630

Disnawati, H., & Nahak, S. (2019). Pengembangan Lembar Kerja Siswa Berbasis Etnomatematika Tenun Timor pada Materi Pola Bilangan. *Jurnal Elemen*, *5*(1), 64. https://doi.org/10.29408/jel.v5i1.1022

Friansyah, D., & Luthfiana, M. (2018). Desain Lembar Kerja Siswa Materi Sistem Persamaan Dua Variabel Berorientasi Etnomatematika. *Jurnal Pendidikan Matematika (JUDIKA EDUCATION)*, *1*(2), 83–92. https://doi.org/10.31539/judika.v1i2.322

Kamarullah, K. (2017). Pendidikan Matematika di Sekolah Kita. *Al Khawarizmi: Jurnal Pendidikan Dan Pembelajaran Matematika*. https://doi.org/10.22373/jppm.v1i1.1729

Marsigit, M. (2016). Pembelajaran matematika dalam perspektif kekinian. *Math Didactic: Jurnal Pendidikan Matematika*, *2*(3), 132–141. https://doi.org/10.33654/math.v2i3.40

Nahak, H. (2019). Upaya Melestarikan Budaya Indonesia si Ers Globalisasi. *Jurnal Sosiologi Nusantara*, *5*(1), 65–76. https://doi.org/10.33369/jsn.5.1.65-76

Plomp, T., & Nieveen, N. (2013). *An Introduction to Educational Design Research*. Netherlands: Enschede: Netherland Institute for Curriculum Development (SLO).

Purwanto, N. (2012). *Prinsip-prinsip dan Teknik Evaluasi Pengajaran*. Bandung: Bandung: Alfabeta.

Rewatus, A., Leton, S. I., Fernandez, A. J., & Suciati, M. (2020). Pengembangan Lembar Kerja Peserta Didik Berbasis Etnomatematika Pada Materi Segitiga dan Segiempat. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 645–656. https://doi.org/10.31004/cendekia.v4i2.276

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R & D*. Bandung: Bandung: Alfabeta, CV.

Talo, Y. A., Ardana, I. M., Kertih, I. W., Studi, P., Dasar, P., & Ganesha, U. P. (2022). *Berbasis Etnomatematika Batu Kubur Dan Rumah Adat*. *6*(1), 84–93.

Wandari, A., Kamid, K., & Maison, M. (2018). Pengembangan Lembar Kerja Peserta Didik (LKPD) pada Materi Geometri berbasis Budaya Jambi untuk Meningkatkan Kreativitas Siswa. *Edumatika : Jurnal Riset Pendidikan Matematika*, *1*(2), 47. https://doi.org/10.32939/ejrpm.v1i2.232

Widyastuti, M. (2021). *Peran Kebudayaan Dalam Dunia Pendidikan The Role of Culture in The Word of Education*. *1*(1), 54–64.

Wiest, L. R. (2001). Teaching mathematics from a multicultural perspective. *Equity and Excellence in Education*, *34*(1), 16–25. https://doi.org/10.1080/1066568010340103

Zulfah. (2020). *Pengembangan Lembar Kerja Peserta Didik Berbasis Problem Based Learning*. Sukabumi: Sukabumi : Haura Publishing.

Zulfah, Z., & Insani, S. U. (2020). Pengembangan Soal Matematika Berbasis Kearifan Lokal dan Daya Tarik Wisata Riau Pada Tahap Preliminary Research. *Jurnal Cendekia : Jurnal Pendidikan Matematika*, *4*(2), 797–799. https://doi.org/10.31004/cendekia.v4i2.311

AL-ISHLAH
JURNAL PENDIDIKAN
TERAKREDITASI
ISSN 2087-9490 (p)
ISSN 2597-940X (e)
Accredited
SINTA 2

Letter of Paper Acceptance

No: 1779/LoA/ALISHLAH/STAI-HW/2022

Bengkalis, February 23, 2022

Dear **Astuti Astuti, Zulfah Zulfah, Nur Fitriana,**

On behalf of the committee of AL-ISHLAH: Journal Pendidikan, we are glad to inform you that your manuscript:

Entitled	:	Development of Student Worksheets by Using the Context of Riau Traditional Houses on Quadrilaterals and Triangles
Author(s)	:	Astuti Astuti, Zulfah Zulfah, Nur Fitriana
Affiliation	:	Universitas Pahlalawan Tuanku Tambusai, Universitas Pahlalawan Tuanku Tambusai, STBA Persada Bunda, Universitas Pasir Pangaraian
URL Article	:	http://journal.staihubbulwathan.id/index.php/alishlah/article/view/1779

HAS BEEN ACCEPTED and considered to be published in *AL-ISHLAH: Jurnal Pendidikan* Vol. 14 No. 1 (2022). The paper will be published after successfully passing the review process and revisions made by the author(s).

AL-ISLAH: Journal Pendidikan is a scientific journal with the publication level of SINTA 2 Accredited National Journal, based on the Decree of Minister of Research and Technology/Head of National Agency for Research and Innovation Number: 200/M/KPT/2020 concerning the ranking of scientific journal accreditation period III in 2020.

Thank you for submitting your paper to in AL-ISLAH: Journal Pendidikan, wishing you all success in your future endeavours.

Sincerely Yours,
Editor in Chief

Widia Yunita