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Error Analysis On The Pronunciation Of Past Tense Endings (-ED) By Eleventh Grade Students At SMA N 14 Medan

Analisis Kesalahan Pelafalan Akhiran Kata Kerja Lampau (-ED) oleh Siswa Kelas Sebelas di SMA N 14 Medan

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ABSTRACT

This study investigates the types and causal factors of pronunciation errors in the realization of the regular past tense suffix -ed among eleventh-grade students at SMA Negeri 14 Medan. Adopting a qualitative descriptive approach, this study employed Error Analysis as its primary analytical framework, guided by Corder (1981) and the Surface Strategy Taxonomy of Dulay, Burt, and Krashen (1982). Data were collected from ten purposively selected students of class XI.2 through an oral pronunciation test comprising 60 regular past tense verbs representing the three allophones of -ed (/t/, /d/, and /ɪd/), yielding a total corpus of 600 pronunciation tokens. Semi-structured interviews were subsequently conducted to triangulate the findings and identify the sources of error. The results reveal three types of pronunciation errors: misformation (50.50%), addition (21.17%), and omission (10.00%), with an overall error rate of 81.67%. A cross-categorical analysis demonstrated a clear hierarchy of difficulty: /t/ (100%) > /d/ (87%) > /ɪd/ (58%), reflecting an inverse relationship between allophonic difficulty and orthographic transparency. Two interacting causal factors were identified: interlingual interference from Indonesian, manifested through orthographic reading habits and the absence of word-final voicing distinctions in L1, and intralingual overgeneralization driven by the near-total absence of explicit phonological instruction. These findings underscore the urgent need for targeted phonological instruction that explicitly addresses the voiced-voiceless distinction and the allophonic conditioning rules governing -ed pronunciation.
Keywords: *error analysis, -ed pronunciation, allophonic variation, EFL learners.*

ABSTRAK

Studi ini menyelidiki jenis dan faktor penyebab kesalahan pengucapan dalam realisasi sufiks lampau beraturan -ed di kalangan siswa kelas sebelas SMA Negeri 14 Medan. Mengadopsi pendekatan deskriptif kualitatif, studi ini menggunakan Analisis Kesalahan sebagai kerangka analitis utamanya, dipandu oleh Corder (1981) dan Taksonomi Strategi Permukaan Dulay, Burt, dan Krashen (1982). Data dikumpulkan dari sepuluh siswa kelas XI.2 yang dipilih secara purposif melalui tes pengucapan lisan yang terdiri dari 60 kata kerja lampau beraturan yang mewakili tiga alofon -ed (/t/, /d/, dan /ɪd/), menghasilkan korpus total 600 token pengucapan. Wawancara semi-terstruktur kemudian dilakukan untuk melakukan triangulasi temuan dan mengidentifikasi sumber kesalahan. Hasil penelitian menunjukkan tiga jenis kesalahan pengucapan: misformasi (50,50%), penambahan (21,17%), dan penghilangan (10,00%), dengan tingkat kesalahan keseluruhan sebesar 81,67%. Analisis lintas kategori menunjukkan hierarki kesulitan yang jelas: /t/ (100%) > /d/ (87%) > /ɪd/ (58%), yang mencerminkan hubungan terbalik antara kesulitan alofonik dan transparansi ortografi. Dua faktor penyebab yang saling berinteraksi diidentifikasi: interferensi antarbahasa dari bahasa Indonesia, yang dimanifestasikan melalui kebiasaan membaca ortografi dan tidak adanya perbedaan pengucapan akhir kata dalam bahasa ibu, dan generalisasi intrabahasa yang didorong oleh hampir tidak adanya instruksi fonologis eksplisit. Temuan ini menggarisbawahi kebutuhan mendesak akan instruksi fonologis yang ditargetkan yang secara eksplisit membahas perbedaan pengucapan bersuara-tidak bersuara dan aturan pengkondisian alofonik yang mengatur pengucapan -ed.
Kata kunci: analisis kesalahan, pengucapan -ed, variasi alofonik, pembelajar EFL.

1. Introduction

The phenomenon of English language proficiency, particularly in oral skills, remains a real challenge in senior high school education in Indonesia. This skill is highly dependent on accurate Pronunciation, as correct Pronunciation ensures message clarity (intelligibility) and avoids potential misunderstandings. Initial observations conducted by researchers at State Senior High School (SMAN) 14 Medan, particularly among 11th-grade students, highlighted a pattern of significant difficulties in speech production. Empirically, while conducting Field Experience Practice (PPL), the researcher personally heard and observed that when students had to produce sentences in the past tense, the most consistent and prominent pattern of error was the failure to pronounce the past tense ending "-ed" on regular verbs.

Based on the researcher's auditory experience, students frequently mispronounced these endings by reading them literally or applying incorrect phonetic rules. For instance, the researcher heard students pronounce the word "walked" as /wɔːk-ed/ instead of /wɔːkt/, "played" as /pleɪ-ed/ instead of /pleɪd/, "watched" as /wɒtʃ-ed/ instead of /wɒtʃt/, "visited" as /vɪsɪt/ by completely omitting the suffix instead of /vɪzɪtɪd/. This error often manifests as the generalization of /ed/ or /id/, regardless of the applicable phonological rules, indicating that conceptual mastery of grammar has not been fully internalized in speaking skills.

The researcher's interest in this topic arose because this Error not only affects grammar, but also significantly hinders students' fluency in oral communication. Researcher observed firsthand that, even though students understood the grammar rules for using the past tense, their failure to produce the "-ed" sound made their communication sound awkward, ineffective, and, at times, confusing to listeners. This specific phenomenon observed at SMAN 14 Medan reaffirms that mastery of phonological aspects, especially sounds that have grammatical implications such as the "-ed" ending, is a crucial component that must be prioritized. This phenomenon raises a fundamental question for researchers: what exactly is the root cause of this systematic Error and how can this specific pattern be overcome? The desire to contribute practical, data-driven solutions is what prompted researchers to choose this topic.

The primary focus of this issue lies in the phonological complexity of the suffix "-ed." Grammatically, adding this suffix to regular verbs forms the simple past tense and past participle. However, phonologically, this suffix has three pronunciation variations or allophones whose rules depend entirely on the nature of the final sound of the base word. The first is /ɪd/ which is used after the sounds /t/ and /d/, for example in words like "wanted" or "needed". The second is /t/ which is applied after voiceless sounds such as /p, k, f, s, ʃ, tʃ/, for example in words like "looked" or "washed". The third is /d/ which is used after voiced sounds including all vowels, for instance in words like "played" or "called". The researcher specifically chose 11th-grade students as the subject of this study because they are in a critical transition phase where they are expected to move beyond basic grammar to more fluent oral communication. At this level, students have already been introduced to the Past Tense in their curriculum, making it the ideal stage to evaluate whether their phonological competence aligns with their grammatical knowledge.

For students who speak Indonesian as their first language (L1), the transition to the English sound system (L2) often poses significant challenges. Learners naturally tend to read words according to their written form (orthography), which conflicts with English phonological rules that require different pronunciations for the exact spelling. In addition, significant differences between the phonetic systems of L1 and L2, especially in voicing features (voiced and voiceless sounds), often trigger negative transfer errors in which students apply the L1 sound system to the L2. The urgency of this research is very high because if these error patterns are not identified and corrected effectively at this stage, there is a high risk of fossilized errors that will be extremely difficult to change in the future. Furthermore, accurate pronunciation is the primary determinant of successful communication, as errors at the phonological level can

lead to total communication failure even if the grammar is correct. Therefore, this study is urgently needed to provide a data-driven, qualitative diagnosis that can help teachers develop targeted interventions to improve students' intelligibility and confidence in speaking.

Although errors in the mastery of the simple past tense are a central issue in applied linguistics, a significant knowledge gap remains, particularly regarding phonological aspects. Previous studies, such as Syarif (2014), tend to limit themselves to analyzing the past tense in the written domain and fail to provide in-depth insights into oral production and the phonology of the *-ed* ending. Furthermore, studies that specifically address *-ed* pronunciation errors (e.g., Yaqin, 2023) generally adopt a quantitative descriptive approach, leaving a need for in-depth qualitative exploration to uncover the complex cognitive, intralingual, and interlingual root causes. Finally, although qualitative studies on similar topics exist, the population context differs (Wahyuni et al., 2020), limiting the generalizability of their findings to the specific curricular and linguistic context of SMAN 14 Medan. Collectively, these gaps underscore the urgent need for an in-depth qualitative error analysis at this school to holistically and contextually uncover the types and root causes of phonological failure in pronouncing the *-ed* ending.

To understand and formulate effective interventions for this phenomenon of systematic errors, this study adopts the Error Analysis framework. Error Analysis is a key methodology in applied linguistics that views errors not as failures, but as natural evidence of learning strategies and stages of language learner competence Development (Corder, 1981). Through this method, the study not only stops at identifying the types of errors but also seeks to identify and explain their sources and causes. Theoretically, sources of pronunciation errors among EFL learners are generally classified into two main categories: interlingual errors caused by negative transfer from L1 and intralingual errors caused by overgeneralization or insufficient understanding of L2 rules.

2. Metodology

This study adopted a qualitative descriptive research design, consistent with the aim of obtaining an in-depth, holistic understanding of students' pronunciation errors and their underlying causes (Sugiyono, 2019). The research was conducted at SMA Negeri 14 Medan, with ten students from class XI.2 purposively selected based on their intermediate English proficiency and identification as frequently producing -ed pronunciation errors in speaking activities.

Data were collected using two complementary techniques. First, an individual oral pronunciation test required participants to produce 60 regular past tense verbs representing the three allophonic categories (/ɪd/, /t/, and /d/), with 20 verbs in each category selected from the Oxford 3000 word list. All productions were audio-recorded and transcribed using the International Phonetic Alphabet (IPA), yielding a total corpus of 600 pronunciation tokens. Second, in-depth semi-structured interviews were conducted with all ten participants to explore their perceptions, learning experiences, and awareness of -ed pronunciation rules. Interviews were conducted in Indonesian to ensure depth and clarity of responses.

Data analysis followed the Error Analysis procedure proposed by Corder (1981), comprising four stages: error identification (comparing student productions against target IPA forms), error classification according to Dulay et al.'s (1982) surface strategy taxonomy, frequency tabulation, and error explanation. The interactive qualitative data analysis model of Miles et al. (2014), involving data reduction, data display, and conclusion drawing, was applied to both the pronunciation and interview data. Method triangulation was employed by integrating findings from both data collection techniques to verify and strengthen conclusions regarding error types and causal factors.

3. Literature Review

Pronunciation plays a central role in successful communication as it constitutes the physical realization of spoken language that directly affects intelligibility (Hidayati, 2020).

Richards and Schmidt (2002) define pronunciation as the learner's ability to produce sounds, stress, rhythm, and intonation in a way that is comprehensible. Roach (2009) distinguishes phonetics, which concerns sound production, from phonology, which examines how sounds are organized within a language. In the case of -ed pronunciation, the difficulty is primarily phonological, as learners must internalize rules governing allophonic distribution rather than merely producing isolated sounds.

The regular past tense suffix -ed has three allophonic realizations determined by the final sound of the base verb (Roach, 2009; Cruttenden, 2014). The syllabic /ɪd/ occurs after alveolar stops /t/ and /d/ (e.g., *wanted*, *needed*). The voiceless /t/ appears after voiceless consonants other than /t/ (e.g., *looked*, *washed*), while the voiced /d/ occurs after voiced sounds (e.g., *played*, *called*).

Error Analysis (EA), proposed by Corder (1981), serves as the analytical framework of this study. EA views errors as systematic evidence of language learning rather than mere failures, reflecting the learner's developing interlanguage. A key distinction is made between errors and mistakes: errors are systematic and competence-based, while mistakes are performance-based. The consistent mispronunciation of -ed endings in this study is therefore categorized as errors.

This study adopts the Surface Strategy Taxonomy by Dulay, Burt, and Krashen (1982), which classifies errors based on how learners alter target forms. Omission occurs when required elements are absent, such as dropping the -ed suffix entirely (e.g., *called* → /kɔl/). Addition involves inserting unnecessary elements, often through vowel epenthesis (e.g., *helped* → /hɛlpɪd/), reflecting overreliance on orthography. Misformation refers to the use of incorrect allophonic forms, such as applying /t/ instead of /d/ or vice versa, indicating partial rule acquisition. Misordering, the incorrect placement of elements, is theoretically possible but rarely found in -ed pronunciation.

Corder (1981) classifies error sources into interlingual and intralingual factors. Interlingual errors stem from L1 interference. For Indonesian learners, this includes orthographic transfer due to strong grapheme-phoneme correspondence and the absence of word-final voicing distinctions, leading to incorrect pronunciation of -ed forms (Sayogie & Adbaka, 2022; Maulidia, 2020). Intralingual errors arise from incomplete L2 acquisition. A common mechanism is overgeneralization, where learners apply a single rule across contexts, such as using /ɪd/ for all past tense forms regardless of phonological conditions (Wahyuni, 2021). This is often reinforced by limited explicit instruction on allophonic variation.

4. Results And Discussion

1.1 Data

The data in this study consist of 600 pronunciation tokens obtained from an individual oral pronunciation test conducted with ten selected students from class XI.2 at SMA N 14 Medan. Each student was asked to pronounce sixty regular past tense verbs representing the three phonological allophones of the -ed suffix, namely /ɪd/, /t/, and /d/, with twenty words in each category. The total number of tokens is derived from 10 students multiplied by 60 words. All pronunciations were recorded and transcribed using the International Phonetic Alphabet (IPA) to ensure accurate phonetic analysis. The equal distribution of test items across allophone categories allows for a balanced comparison of students' pronunciation performance.

In presenting the data, each participant is coded as S1, S2, S3, and so on, where "S" stands for "Subject," in order to maintain anonymity while enabling systematic analysis. Tables 4.1 to 4.3 present the IPA transcriptions based on ten representative words from each allophone category, organized accordingly. To enhance readability given the number of participants and the density of phonetic transcription, the tables are divided into two parts: S1–S5 and S6–S10. Representative data are presented in the tables, while the analysis is based on the complete dataset.

Table 1. Raw Pronunciation Data: Allophone /ɪd/

No	Words	Target Pronunciation	S1	S2	S3	S4	S5
1	accepted	/əkˈsɛptɪd/	/ɛsɛptɛt/	/asɛptɛːd/	/ɛzzɛptɪd/	/ɛkɛptɪt/	/ɛsɛptɛd/
2	attended	/əˈtɛndɪd/	/ɛjtɪdɛt/	/atɛːndɛd/	/ɛɪtʃandɪd/	/ɛtɛːndɪt/	/ɛtsɛndɛd/
3	completed	/kəmˈpliːtɪd/	/kɔmpɬit/	/kɔmplid/	/kɔmplɛtɪd/	/kɔmplɛtɪt/	/kɔmpɬit/
4	created	/kɹiːˈɛrtɪd/	/kriːtɛt/	/kriɪtɛd/	/kɹɛɪtɪd/	/kɹiːtɪt/	/kɹɛktɛt/
5	decided	/dɪˈsaɪdɪd/	/diːsɑidi/	/disaɪdɛd/	/dɪsɑɪdɪd/	/disʃedɪd/	/ðɪ sˈaɪdɛd/
6	directed	/dɪˈɹɛktɪd/	/diɹɛkɛtɪd/	/dirɛktɛd/	/dɪɹɛktɪd/	/dɪɹɛktɪd/	/dɹɛːktɛd/
7	expected	/ɪkˈspɛktɪd/	/ɛɕpɛktɪd/	/ɛkspɛːtɪd/	/ɛspækɪd/	/ɛspɛtːɪd/	/ɛkspɛktɛd/
8	graduated	/ˈgɹæd͡ʒʊeɪtɪd/	/greduɛtɪd/	/grɛːduɛtɪd/	/kɹɛɪdʊɛtɪd/	/grɑːtʃuɛtːɪd/	/greduɛtɛd/
9	intended	/ɪnˈtɛndɪd/	/ɛɪntɛndɪd/	/ɪnˈdɛndɛd/	/ɪnʃandɪd/	/ɪntɛndɪd/	/ɪntɛndɛd/
10	invented	/ɪnˈvɛntɪd/	/infɛndɪd/	/ɪnfɛːntɪd/	/ɪnfɛndɪd/	/ɪnfɛntɛːd/	/ɪnfɛndɛd/
No	**Words**	**Target Pronunciation**	**S6**	**S7**	**S8**	**S9**	**S10**
1	accepted	/əkˈsɛptɪd/	/ɛceptɪd/	/asɛptɛt/	/aksɛptɛd/	/ɛkseptɛt/	/atdʒid/
2	attended	/əˈtɛndɪd/	/ɛtendɪd/	/atɛndɪt/	/atɛndɛt/	/atendɪd/	/ʌtɛnd/
3	completed	/kəmˈpliːtɪd/	/kɔmpletɪt/	/kɔmplitɪt/	/kɔmplɛtet/	/kɔmplɛtɪd/	/kɔmplɛt/
4	created	/kɹiːˈɛrtɪd/	/kɹɛtɪt/	/kɹɪɛtɪt/	/kɹɛtɛdˈ/	/kɹɛɪdɪd/	/kɹəɘɛdɛt/
5	decided	/dɪˈsaɪdɪd/	/deʃiːded/	/disaɪdɪd/	/deˈjtɪːt/	/dɪsˈaɪdɪd/	/ðɛsaɪd/
6	directed	/dɪˈɹɛktɪd/	/dɪɪɛkstɪd/	/dɪɪɛktɪd/	/dɪɪɛktɛt/	/tɪ ɹækdɪd/	/dɹaɪkt/
7	expected	/ɪkˈspɛktɪd/	/eɣspɛstɪd/	/ɛkspɛˈtɪt/	/ɛkspɛktɛt/	/ɛkspɛktɪd/	/ɛkspɛtɪd/
8	graduated	/ˈgɹæd͡ʒʊeɪtɪd/	/greduetɪd/	/greɗʊɛtɪt/	/gradɔˈjtɪt/	/kɹɛdʒuːɛtɪd/	/greɗʊʌid/
9	intended	/ɪnˈtɛndɪd/	/intendɪd/	/ɪntɛndɪt/	/ɪntɛndɛt/	/ɛntendɪd/	/ɪnten dɛt/
10	invented	/ɪnˈvɛntɪd/	/ɪnfɛntɪd/	/ɪnfɛnˈtɛd/	/ɪnfɛntɛt/	/ɛnfɛndɪd/	/ɪnfəntɪd/

Table 1. shows how each student pronounced ten verbs that need the /ɪd/ ending, such as *accepted*, *completed*, and *intended*. Most students made errors by changing /ɪd/ to /ɪt/ or /ɛt/ (e.g., S1 said /ɛsɛptɛt/ for *accepted*), or by omitting the ending completely (e.g., S10 said /ʌtɛnd/ for *attended*). Only a few students pronounced some words correctly. This shows that students still struggle with the /ɪd/ ending, even though it has the lowest error rate among the three groups.

Table 2. Raw Pronunciation Data: Allophone /t/

No	Words	Target Pronunciation	S1	S2	S3	S4	S5
1	asked	/ˈæskt/	/ɛkskɛt/	/askɛt/	/ɑskɪt/	/ɑskɛt/	/azkɛd/
2	checked	/ˈt̪ʃɛkt/	/tsikɛt/	/tʃekɛt/	/tʃɛkɪt/	/dʒekɛt/	/tʃɛdkɛd/
3	developed	/dɪˈvɛləpt/	/difilɔpɪd/	/devlopɪd/	/ɗɛvɛlɛpɪt/	/dɪˈvɛlɔpɛd/	/ðɛfɛlɔːpɛd/
4	dropped	/ˈdɹɑpt/	/dropɛt/	/dropɛt/	/drɔpɪt/	/dɹɔpɛd/	/dɹɔːpɛd/
5	finished	/ˈfɪnɪʃt/	/finisɛt/	/finiʃɪd/	/fɪnɪsɪt/	/fɪniʃɛd/	/fɪnɪshɛːd/
6	fixed	/ˈfɪkst/	/fikθɛt/	/fiksɛd/	/fɪsɪt/	/fɪsɛd/	/fikːsɛt/
7	helped	/ˈhɛlpt/	/hɛlpɛt/	/helpɛd/	/hɛlpɪt/	/hɑlpɛd/	/hɛlpɛt/
8	increased	/ˈɪnˌkɹist/	/ɪnkɹeɪsɪd/	/ɪnkɹeɪsɛd/	/ɪnkɹɪzɪt/	/ɛnkɹaɪsɪd/	/ɪn kɹɛːsɛd/

9	laughed	/ˈlæft/	/lɔ:gɪd/	/laʊdɛd/	/lɑkɪt/	/lɔ:hɛd/	/lɔ:k hɛ:d/
10	looked	/ˈlʊkt/	/lʊ:kɛd/	/lʊkɛt/	/lɔ:kɪt/	/lɔ:kɛd/	/lɔ:kɪt/
No	**Words**	**Target Pronunciation**	**S6**	**S7**	**S8**	**S9**	**S10**
1	asked	/ˈæskt/	/ɛskɛd/	/ɑskɛt/	/ɛskɛt/	/ɛskɨt/	/azkɔ:d/
2	checked	/ˈt͡ʃɛkt/	/tʃɛkɛd/	/tʃi:kɛt/	/tʃɛkɛd/	/ʃɛɪkɛd/	/tʃeɪkɔ:d/
3	developed	/dɪˈvɛləpt/	/dɛfɛlɔpɪd/	/dɛvɛlɔ:pɛt/	/dɛvɛlɔpɛd/	/ðɪfɛlɛb/	/dɛvɛlɔ:kɛd/
4	dropped	/ˈdɹɑpt/	/drɔpɛd/	/ðrɔ:pɛt/	/drɔpɛd/	/drɔ:pɛt/	/drɔ:pɛd/
5	finished	/ˈfɪnɪʃt/	/finiʃɪd/	/fi:nɛʃɛt/	/finisɛt/	/fɪnɪsɪt/	/fi:nɪsɛd/
6	fixed	/ˈfɪkst/	/fikʃɪd/	/fi:ksɛt/	/fisɛd/	/fɪsɪt/	/fi:ksɔt/
7	helped	/ˈhɛlpt/	/hɛlpɪd/	/hɛlpɛt/	/hɛlpɛd/	/hɛlpɛt/	/hɛlpɛt/
8	increased	/ˈɪnˌkɹist/	/ɛnkreɪʃɪd/	/inkɛrɛsɛt/	/inkɹesɛd/	/ɪnkɹɛsɪt/	/ɪnskɹe:sɛtˈˈ/
9	laughed	/ˈlæft/	/lɔghɛd/	/ɛnkʃɛt/	/lɔwhɛɪt/	/lɔ:gɪd/	/lɔ:hɛd/
10	looked	/ˈlʊkt/	/lɔkɛd/	/lɔ:hɛt/	/lɔkɛd/	/lɔ:kɛd/	/lɔ:kɛd/

Table 2. shows how each student pronounced ten verbs that need the /t/ ending, such as *asked*, *finished*, and *looked*. None of the students produced the correct /t/ ending. Most students added an extra vowel sound (e.g., S3 said /ɑskɪt/ for *asked*) or used the wrong ending altogether (e.g., S2 said /finiʃɪd/ for *finished*). This confirms that students do not yet know that the *-ed* suffix is pronounced /t/ after voiceless sounds.

Table 3. Raw Pronunciation Data: Allophone /d/

No	**Words**	**Target Pronunciation**	**S1**	**S2**	**S3**	**S4**	**S5**
1	allowed	/əˈlaʊd/	/ɛlɔwɨt/	/alɔwɔd/	/ɛlɔɛt/	/ɛɹloʊɛd/	/alwɛd/
2	answered	/ˈænsəd/	/ɛnswɛrd/	/anɛswɛr/	/ɑnswɛɹɪt/	/ɛnʃuɛɹ/	/answɛ/
3	arranged	/əˈeɪnd͡ʒd/	/ɛɹɛdz/	/ɛrɛnɕ/	/ɛɹændʒɪt/	/ɛɹɛnʃɛn/	/ɑrɛgwɛd/
4	belonged	/bɪˈlɔŋd/	/bilɔts/	/bilɔɔŋɛt/	/bɪlɔŋɪt/	/bɪlɔwget/	/bɪlɔŋ:gɛd/
5	called	/kɑld/	/kɔlɪdz/	/kɔl/	/kɔlɪt/	/kalɪd/	/kɛlɛd/
6	claimed	/ˈkleɪmd/	/kleimɛd/	/clɛiːˈmɛd/	/klɛɪmɪts/	/klɑimɛd/	/klɑ:im/
7	closed	/ˈkloʊzd/	/klɔ:sɪt/	/klɔ:sɛd/	/klʊzɪt/	/kloʊsɛd/	/klɑ:sɛt/
8	followed	/ˈfɑloʊd/	/fɔ:luwɛt/	/fɔ:lʊ:ɛ:d/	/fɔluɛt/	/fɔ:lɔwɛd/	/fɔloʊɪd/
9	happened	/ˈhæpənd/	/hɛpɔnɛd/	/hɛpɛnɛd/	/hæppɛnɪt/	/hɛpɛnɛd/	/hɛpɛnɪd/
10	lived	/ˈlɪvd/	/lɪfwɛd/	/lɛ:fʊd/	/lɪvɪt/	/lɑifed/	/lɑfɪt/
No	**Words**	**Target Pronunciation**	**S6**	**S7**	**S8**	**S9**	**S10**
1	allowed	/əˈlaʊd/	/ɛlɔ:wɪt/	/ɑloʊɛt/	/ɑlowɛd/	/ɛlɔ:d/	/ɛlɔwɛd/
2	answered	/ˈænsəd/	/ɛnʃwɛrɪd/	/ɛnswɛɹɪd/	/ɛnswɛr/	/ʌnsɛrd/	/ɛnswɛrd/
3	arranged	/əˈeɪnd͡ʒd/	/ɛrɛŋɛt/	/ɛrɛŋɪt/	/ɑrɛndʒ/	/ɑːɹɛns/	/ɛɹɛɪndʒ/
4	belonged	/bɪˈlɔŋd/	/bɪlɔŋgɛt/	/bɛlɔɹɪŋɪd/	/bɪlɔ:/	/bɪlɒŋ/	/bɛlɔŋɪd/
5	called	/kɑld/	/kælɛt/	/kɑl/	/kɔ:lɛdʒ/	/kɑlɪd/	/tʃɛlɛd/
6	claimed	/ˈkleɪmd/	/klɛmɛt/	/klɑɪmɪd/	/klɑɪmɛd/	/klɛɪm/	/clɛɪmɛd/

7	closed	/ˈkloʊzd/	/klʊsɛd/	/klɔsɛt/	/klɔːsɪd/	/klɑːsɪd/	/klɔzɛd/
8	followed	/ˈfɑloʊd/	/fɔrɔwɛ/	/fɔloʊ/	/fɔloʊɛd/	/fɔːloʊd/	/fɔlɔwɛd/
9	happened	/ˈhæpənd/	/hævɪnɪd/	/hæpɪnɪd/	/həppɛnɛd/	/hæpən/	/hæpɪnɪd/
10	lived	/ˈlɪvd/	/lɛɪfɔd/	/laɪfɛd/	/lɪvɪd/	/lɪvt/	/lɪvɛd/

Table 3. shows how students pronounced ten verbs that require the /d/ ending, such as *called*, *followed*, and *lived*. This ending is used after voiced consonants and vowels. Compared to the /t/ category, students performed slightly better here; a few productions were correct, such as S2's /alɔwɔd/ for *allowed* and S9's /ɛlɔːd/ for *allowed*. However, errors were still common. Many students replaced the /d/ ending with /t/ (e.g., S1 said /ɛlɔwɬt/ for *allowed*), added an extra vowel (e.g., S5 said /hɛpɛnɪd/ for *happened*), or omitted the ending completely (e.g., S7 said /fɔloʊ/ for *followed*). These errors mainly happened because students are not used to distinguishing voiced and voiceless sounds at the end of words, which is not a feature in Indonesian.

2.1 Data Analysis

The data in this study were analyzed using Error Analysis (EA) as the primary approach to identify and categorize students' pronunciation errors. The analytical procedures followed the interactive qualitative data analysis model introduced by Miles et al. (2014), which involves three interconnected stages: data reduction, data display, and conclusion drawing. Within this framework, students' oral recordings were examined to identify the types of errors, classify them based on allophonic categories, and calculate their frequency. Furthermore, the interview data were analyzed using the same framework to strengthen and support the interpretation of the research findings.

2.2.1 Types of Pronunciation Errors

Analysis of the 600 pronunciation tokens identified three of the four error types from Dulay et al.'s (1982) taxonomy: misformation, addition, and omission. No misordering errors were found, consistent with the theoretical expectation that this type rarely occurs in the phonological production of inflectional morphemes. Table 1 presents the overall frequency of each error type.

2.2.1.1 Omission Errors

Omission errors occur when a learner fails to produce a linguistic element that is required by the phonological rules of the target language. In the context of the -ed suffix, omission errors manifest when students either drop the entire suffix or fail to realize the obligatory allophonic ending, resulting in the bare verb stem being produced in place of the past tense form. Table 4. presents selected examples of omission errors identified in the data.

Table 4. Examples of Omission Errors

Student	Words	Correct Pronunciation	Student Pronunciation	Error Type
S1	completed	/kəmˈpliːtɪd/	/kɔmpɬit/	Omission
S1	recorded	/ɹɪˈkɔːdɪd/	/rikɔrdɛ/	Omission
S2	walked	/ˈwɔkt/	/wɔl/	Omission
S9	developed	/dɪˈvɛləpt/	ðɪfɛlɛb/	Omission
S5	claimed	/ˈkleɪmd/	/klɑːim/	Omission
S7	called	/kɑld/	/kɑl/	Omission

The examples in Table 4.4 illustrate the characteristic pattern of omission errors. In the case of *completed*, S1 produced /kɔmpɬit/, entirely omitting the target allophone /ɪd/ and reverting to the base verb stem. A similar pattern is evident in S2's pronunciation of *walked* as /wɔl/, in which both the final consonant cluster /kt/ and the inflectional suffix were omitted. The omission of *called* to /kɑl/ by S7 demonstrates the same tendency in the /d/ category, wherein the voiced allophone was dropped entirely. Notably, in S9's production of *developed* as /ðɪfɛlɛb/, not only was the -ed suffix omitted, but additional segmental distortions were present, suggesting concurrent phonological difficulties. These findings indicate that students have not fully internalized the requirement to produce an audible allophonic realization of the -ed morpheme in spoken output.

2.2.1.2 Addition Errors

Addition errors occur when a learner introduces a linguistic element that is not required or permitted in the correct target language form. In phonological terms, addition errors in the context of the -ed suffix predominantly take the form of vowel epenthesis, a process in which an extraneous vowel sound typically a schwa /ə/ or the high front vowel /ɪ/ is inserted between the base verb's final consonant and the suffix, producing a syllabic /ɪd/ realization in phonological environments that do not warrant it. Representative examples are presented in Table 5.

Table 4. Examples of Addition Errors

Student	Words	Correct Pronunciation	Student Pronunciation	Error Type
S1	developed	/dɪˈvɛləpt/	/difilɔpɪd/	Addition
S2	finished	/ˈfɪnɪʃt/	/finiʃɪd/	Addition
S6	helped	/ˈhɛlpt/	/hɛlpɪd/	Addition
S4	followed	/ˈfɑloʊd/	/fɔloʊɪd/	Addition
S5	happened	/ˈhæpənd/	/hɛpɛnɪd/	Addition
S6	opened	/ˈoʊpənd/	/ɔpɛnid/	Addition

The examples in Table 5. demonstrate a consistent pattern of epenthesis across multiple students and verb categories. S2's production of *finished* as /finiʃɪd/ and S6's production of *helped* as /hɛlpɪd/ illustrate the insertion of an unnecessary /ɪ/ vowel before the final /d/, effectively converting the target allophone /t/ into a syllabic form. Similarly, S4's pronunciation of *followed* as /fɔloʊɪd/, S5's production of *happened* as /hɛpɛnɪd/, and S6's pronunciation of *opened* as /ɔpɛnid/ reflect the same overgeneralization of the /ɪd/ pronunciation into the /d/ category. These observations confirm that students perceive the written form -ed as a universal indicator of the syllabic /ɪd/ pronunciation, without applying the phonological conditioning rules that govern allophone selection.

2.2.1.3 Misformation Errors

Misformation errors occur when learners produce a morpheme or phoneme in an incorrect form, rather than omitting it or adding an unnecessary element. In the phonological context of this study, misformation errors refer to cases in which students produce the -ed suffix but realize it using an inappropriate allophone. In these instances, the suffix is present phonologically, but the phonetic form does not follow the rules governing the voiced and voiceless distinction in English. Misformation represents the most complex of the three error types, as it indicates partial acquisition of the -ed morpheme: students show awareness of the

need for a past tense marker, yet have not fully developed the phonological ability to select the correct allophonic form. Selected examples are presented in Table 4.6.

Table 5. Examples of Misformation Errors

Student	Words	Correct Pronunciation	Student Pronunciation	Error Type
S1	allowed	/əˈlaʊd/	/ɛlɔwɨt/	Misformation
S1	created	/kɹiːˈeɪtɪd/	/kɾiːtɛt/	Misformation
S7	helped	/ˈhɛlpt/	/muvɛt/	Misformation
S7	played	/ˈpleɪd/	/plɛɪɛt/	Misformation
S9	happened	/ˈhæpənd/	/sɔː wɛt/	Misformation
S9	passed	/ˈpæst/	/pɑsɛd/	Misformation

The examples in Table 6. highlight the variety of misformation patterns present in the data. S1's production of *allowed* as /ɛlɔwɨt/ demonstrates the substitution of the target allophone /d/ with a voiceless /t/-like sound, reflecting a devoicing process attributable to L1 phonological transfer. The same devoicing pattern is evident in S7's pronunciation of *played* as /plɛɪɛt/, where the target /d/ was replaced by /t/. In contrast, S9's production of *passed* as /pɑsɛd/ illustrates the substitution of the correct voiceless /t/ allophone with the voiced /d/, while S1's pronunciation of *created* as /kɾiːtɛt/ replaces the target /ɪd/ with a voiceless realization, again reflecting terminal devoicing. These patterns collectively confirm that students have not yet acquired the voicing-conditioned allophonic rules governing the -ed suffix and instead apply substituted forms that are phonologically permissible in their first language but deviant in English.

2.2.1.4 Misordering Errors

The fourth category in Dulay, Burt, and Krashen's (1982) Surface Strategy Taxonomy is misordering, which refers to the incorrect placement of morphemes or sounds within a word or utterance. In the present study, no misordering errors were identified in the students' pronunciation data. This finding is consistent with the theoretical expectation noted in Chapter II, as misordering rarely occurs in the phonological production of inflectional morphemes such as the -ed suffix.

2.2.2 Main Factors Causing Pronunciation Errors

The analysis of students' pronunciation errors was further reinforced by data obtained through in-depth semi-structured interviews with all ten research participants. These interviews were conducted in Indonesian to allow participants to express their ideas more clearly and comfortably, and were aimed at exploring the underlying factors contributing to the mispronunciations identified in the oral performance test. The interpretation of these factors is grounded in the Error Analysis framework proposed by Corder (1981), which classifies sources of error into two primary categories: interlingual factors, originating from the phonological influence of Indonesian as the students' first language (L1), and intralingual factors, which result from incomplete mastery of English phonological rules within the learners' developing interlanguage system.

2.2.2.1 Interlingual Factors

Interlingual errors are those caused by the negative transfer of phonological patterns from the learner's first language (L1) into the target language (L2) (Corder, 1981). In the context

of this study, Indonesian, as the dominant native language of all ten subjects, was identified as a significant source of interference in students' production of the -ed suffix.

The most salient interlingual factor identified in the interview data is the phonological principle of orthographic transparency that governs Indonesian pronunciation. In Indonesian, words are largely pronounced as they are written, meaning there is a near-direct correspondence between orthographic form and phonological realization. This principle, deeply ingrained through years of literacy instruction in L1, was consistently reported by students as the default strategy applied when reading English words aloud.

Several students explicitly acknowledged this tendency during the interviews. When asked whether their first language influenced how they pronounced -ed endings, S7 responded affirmatively, drawing a direct connection between Indonesian orthographic convention and her English pronunciation, stating that in Indonesian, the way a word is written is also how it is read. This response aligns precisely with the phonological behavior documented in the error analysis, where S7 consistently mispronounced verbs in the /t/ and /d/ categories by substituting the target allophone with a vowel-final or syllabic form. For instance, S7 produced played as /plɛɪɛt/ instead of the target /pleɪd/, and helped as /hɛlpɪd/ instead of /hɛlpt/, suggesting that the written form -ed was being processed as a literal phonological sequence rather than an allomorphic ending.

A similar pattern was reported by S4, who noted being more familiar with the written form than the sound. When asked directly whether she had ever pronounced the -ed ending by reading it literally as written, she confirmed that she had. This self-reported behavior is corroborated by her test data, in which she produced numerous addition errors by inserting an unnecessary vowel before the final consonant, such as followed pronounced as /fɔːlɔwɛd/ instead of /fɑloʊd/, and misformation errors such as attended produced as /ɛtɛːndɪt/ instead of /əˈtɛndɪd/.

S2 similarly acknowledged the influence of Indonesian phonological habits, noting that the influence of the first language comes from habit. His test data further corroborate this, as he produced a consistent pattern of treating the -ed suffix as a syllabic ending regardless of the phonological environment, yielding addition errors such as finished as /finiʃɪd/ and stopped as /stɔpəd/, both of which should have taken the voiceless allophone /t/.

Another dimension of L1 interference identified in the data is the absence of voicing as a functionally significant feature in Indonesian word-final position. As discussed in Chapter II, Indonesian phonology does not require speakers to actively distinguish between voiced and voiceless consonants at the ends of words in the same way that English does. This absence of voicing sensitivity in L1 directly undermines students' ability to apply the voicing-conditioned allophonic rules governing the -ed suffix in English, and manifests most clearly in the high rate of misformation errors observed in the /d/ and /t/ allophone categories. In the /d/ category, students frequently devoiced the target allophone, replacing /d/ with /t/ or a voiceless approximation, as illustrated by S1's production of allowed as /ɛlɔwɨt/ and S7's production of played as /plɛɪɛt/. In both cases, the voicing feature of the final allophone was neutralized, a pattern fully consistent with L1-induced devoicing tendencies in word-final position.

2.2.2.2 Intralingual Factors

In addition to interlingual transfer, a second category of causal factors was identified, namely intralingual errors that arise from the incomplete internalization of the phonological system of the target language. In contrast to interlingual errors, intralingual errors are internally generated within the learner's developing interlanguage and occur independently of interference from the first language (L1). The two main intralingual mechanisms identified in this study include a lack of knowledge of phonological rules and the overgeneralization of a single allophonic rule.

The most consistently reported intralingual factor across all ten interviews was the absence of prior knowledge regarding the three-way allophonic distinction that governs the

pronunciation of the -ed suffix. When asked whether they had previously been aware that -ed endings could be realized in three different forms (/t/, /d/, and /ɪd/), the majority of students indicated that they had not. This finding suggests that the errors identified in the oral performance test cannot simply be attributed to performance slips, but rather reflect a deeper issue related to competence, as the learners had not yet acquired the phonological rules necessary for appropriate allophone selection.

Out of the ten participants, only one student (S7) reported having prior exposure to these rules; however, she admitted that her understanding was limited and not consistently applied. She further explained that in situations of uncertainty, she tended either to skip the word or to pronounce it without applying any clear rule. This reported strategy corresponds with the high frequency of misformation and omission errors found in her test results, including pronunciations such as *helped* as /muvɛt/, *graduated* as /grɛdʊɛtɪt/, and the omission of *called*, which was produced as /kɑl/.

The remaining nine students confirmed that their English teachers had never explicitly taught the allophonic rules for -ed pronunciation. S1 stated that while his teacher had covered the past tense in class, the phonological rules for -ed were never addressed: the teacher only mentioned whether the pronunciation was correct or incorrect, without explaining any rule. This is consistent with the pattern documented across his test data, in which he generalized a single -ed pronunciation to all verb types, producing forms such as completed as /kɔmpɬit/ (omission), created as /kɾiːtɛt/ (misformation), and allowed as /ɛlɔwɬt/ (misformation). S8 similarly reported having no knowledge of the rules, disclosing that she simply read the -ed part as 'ed' in all words, which corresponds precisely to her near-uniform syllabic realization across all three allophone categories. S6 echoed this, adding that uncertainty led him to actively avoid producing words with -ed endings altogether, which explains the omission patterns present in his data.

The second intralingual factor is overgeneralization, a process in which a learner applies a single L2 rule broadly across all contexts, including those where the rule should not apply (Corder, 1981). In this study, the dominant pattern of overgeneralization was the application of the syllabic /ɪd/ or a close variant to all regular past tense verbs, regardless of whether the base verb ends in a sound that phonologically conditions a different allophone. All ten students reported that prior to the study, their default pronunciation strategy was to produce all -ed endings with a vowel-consonant syllable. S10 stated that he pronounces everything as 'it' watch it, look it, everything. S9 confirmed a similar pattern of following the way a word is written, and S5 and S6 both reported pronouncing -ed universally as /ɪd/.

This pattern of overgeneralization is most visibly documented in the addition error data, which were most prevalent in the /t/ and /d/ allophone categories. Students systematically inserted an unnecessary vowel to produce a syllabic ending where none is phonologically required. The most extreme case was S3, who produced an addition error in every single item in the /t/ category (20 out of 20), consistently applying an /ɪt/ ending regardless of the base verb's final consonant as seen across words such as *asked*, *checked*, *developed*, and *walked*. This systematic pattern confirms that S3's errors constitute a rule-based overgeneralization rather than random mispronunciation. The orthographic transparency of the /ɪd/ form, which closely resembles the written *-ed*, reinforced this strategy, while the near-total absence of explicit instruction on the other two allophones left it unchallenged throughout the students' learning experience.

3.1 Research Findings

The analysis identifies various types of pronunciation errors in the realization of the -ed ending, along with their frequency and distribution across the three allophone categories.

3.3.1 Types of Pronunciation Errors

Three types of pronunciation errors were identified in the data obtained from ten selected students of class XI.2 at SMA N 14 Medan: misformation, addition, and omission. Table 7. presents the frequency of each error type across the total dataset of 600 tokens.

Table 6. Frequency and Percentage of Error Types

Error Type	Frequency	Percentage of Total Tokens
Misformation	303	50.50%
Addition	127	21.17%
Omission	60	10.00%
TOTAL	490	81.67%

Of the 600 total pronunciation tokens analyzed, 110 productions (18.33%) were phonologically accurate, yielding an overall error rate of 81.67%. As shown in Table 4.7, misformation was the most dominant error type, accounting for 303 out of 600 tokens (50.50%). Addition errors constituted the second most frequent type with 127 instances (21.17%), followed by omission errors at 60 instances (10.00%). Correct productions accounted for 110 tokens (18.33%), reflecting an overall error rate of 81.67% across all three allophonic categories.

Beyond overall frequency, the distribution of errors across the three phonological categories of the -ed ending reveals a clear hierarchy of difficulty. Tables 4.8 and 4.9 present the cross-tabulation of error types by allophone category and the corresponding error rates.

Table 7. Errors Based on -ed Pronunciation

Allophone	Omission	Addition	Misformation	Correct	Total
/ɪd/	14	0	102	84	200
/t/	13	45	142	0	200
/d/	33	82	59	26	200
TOTAL	60	127	303	110	600

Table 8. Summary of Errors Per Allophone Category

-ed Allophone	Number of Errors	Error Rate
/t/	200	100%
/d/	174	87%
/ɪd/	116	58%
Total	490	81.67%

As evidenced by Tables 8. and 9., the /t/ allophone category produced the highest total number of errors, with all 200 tokens resulting in some form of error (100% error rate). Not a single student produced a phonologically accurate realization of the /t/ allophone across any of the twenty test items in this category. The error distribution within this category was dominated by misformation (142 instances), followed by addition (45 instances) and a small number of omissions (13 instances).

The /d/ allophone category yielded 174 total errors out of 200 tokens, corresponding to an 87% error rate. Unlike the /t/ category, the /d/ category included some correct productions (26 tokens, or 13%), suggesting that the /d/ allophone is marginally more accessible to students,

possibly because it most closely resembles the written form -ed in terms of orthographic expectations. The errors in this category were distributed across misformation (59 instances), addition (82 instances), and omission (33 instances).

The /ɪd/ allophone category had the lowest overall error rate, with 116 errors out of 200 tokens (58%) and 84 correct productions (42%). This finding is consistent with previous research, including Hidayati (2020) and Kanokpermpoon (2005), both of which report that the /ɪd/ allophone is comparatively easier for EFL learners, as its phonetic form most closely resembles the written -ed. Errors in this category consisted primarily of misformation (102 instances) and omission (14 instances). Notably, no addition errors were recorded in the /ɪd/ category, since the /ɪd/ allophone is itself a syllabic form, making further epenthesis phonologically redundant.

Taken together, the cross-categorical analysis reveals a clear hierarchy of difficulty among the three -ed allophones: /t/ (100% error rate) > /d/ (87%) > /ɪd/ (58%). This hierarchy indicates that the degree of difficulty is inversely related to the orthographic transparency of the allophone and directly related to the degree to which voicing assimilation rules must be consciously applied.

2.3.2 Main Factors Causing Pronunciation Errors

Two main factors were identified as causing students' pronunciation errors on the -ed suffix: interlingual interference from Indonesian and intralingual overgeneralization.

The most prominent interlingual source of interference was the orthographic reading habit rooted in Indonesian phonology, where spelling and pronunciation closely correspond. This habit led students to process the written form -ed as a literal phonological sequence, resulting in the addition of an unnecessary syllabic vowel in contexts requiring the non-syllabic /t/ or /d/ allophones. A further dimension of L1 interference was the absence of word-final voicing distinctions in Indonesian, which undermined students' ability to apply the voicing-conditioned allophonic rules of English. This was most clearly evidenced in the high rate of devoicing observed in the /d/ allophone category, where students consistently replaced the voiced /d/ with a voiceless approximation.

Nine out of ten students confirmed having received no explicit instruction on the three-way allophonic distinction governing -ed pronunciation. In the absence of such instruction, students defaulted to a universal /ɪd/ realization for all regular past tense verbs, a classic pattern of overgeneralization in which one partially acquired rule is extended beyond its valid phonological domain. This intralingual strategy accounts for the widespread addition errors documented across the /t/ and /d/ allophone categories, as well as a substantial proportion of the misformation errors.

These two factors operated in tandem: the orthographic transparency of /ɪd/ reinforced the overgeneralization strategy, while the absence of voicing as a functional feature in Indonesian phonology compounded students' difficulty in distinguishing and producing the correct voiced and voiceless allophones. Together, they produced an overall error rate of 81.67%, confirming that accurate -ed allophone production remains largely unattained at this level.

4.1 Discussion

The findings of this study reveal a severe and pervasive difficulty in -ed allophone pronunciation among eleventh-grade students at SMA N 14 Medan, with an overall error rate of 81.67% across 600 pronunciation tokens. These findings are interpreted within the Surface Strategy Taxonomy of Dulay, Burt, and Krashen (1982), which classifies errors according to how learners modify target language forms. Three error types were identified: misformation (50.50%), addition (21.17%), and omission (10.00%). Misformation emerged as the dominant pattern, indicating that students possess a surface-level awareness of the past tense ending. They recognize that a morpheme must be produced, yet lack the phonological competence to select the appropriate allophonic variant.

The allophonic hierarchy of difficulty identified in this study, /t/ (100%) > /d/ (87%) > /ɪd/ (58%), is theoretically consistent with the role of orthographic transparency in allophone acquisition. The /ɪd/ allophone, whose phonetic form most closely resembles the written -ed, proved comparatively more accessible, as students could partially rely on spelling conventions to arrive at an approximation of the target form. By contrast, the /t/ allophone produced a 100% error rate; no student produced a phonologically accurate realization across any of the twenty /t/ test items.

These findings are broadly consistent with prior research. Yaqin (2023) documented misformation as the dominant error pattern among eleventh-grade students at a vocational school in Central Java, while Wahyuni et al. (2021) similarly identified systematic substitution errors in -ed realization among Indonesian university-level EFL learners. Utami and Solihati (2025) further corroborated the exceptional difficulty of the /t/ allophone reporting a 72.1% misformation rate in this category among eighth-grade students and attributed it to L1 interference and limited phonological awareness, both of which are strongly supported by the present data. The relative accessibility of /ɪd/ observed in the present study is also consistent with Kanokpermpoon's (2005) findings among Thai EFL learners, suggesting that the orthographic-transparency hierarchy in -ed allophone difficulty may reflect a cross-linguistic phenomenon rather than a feature unique to the Indonesian EFL context.

Corder (1981) classifies the sources of learner error into two broad categories: interlingual and intralingual errors. These findings suggest that students' errors in pronouncing the -ed ending are systematic rather than incidental. They stem from the interaction of two main factors: interlingual interference from Indonesian orthographic conventions and the absence of word-final voicing distinctions, as well as intralingual overgeneralization of a single /ɪd/ form. Effective pedagogical intervention will therefore need to address both sources simultaneously: through explicit teaching of the voicing-conditioned allophonic rules, systematic phonological awareness training centered on the voiced-voiceless distinction, and sustained oral practice with corrective feedback.

5. Conclusion

This study investigated the types and causes of pronunciation errors in the regular past tense suffix *-ed* among eleventh-grade students at SMA Negeri 14 Medan. Based on the analysis of 600 pronunciation tokens collected from ten selected students, the findings reveal a severely high overall error rate of 81.67%, indicating that accurate allophonic realization of the *-ed* suffix remains largely unattained at this level.

Three types of pronunciation errors were identified: misformation, addition, and omission, accounting for 50.50%, 21.17%, and 10.00% of total tokens respectively. No misordering errors were found, which is consistent with the theoretical expectation that such errors rarely occur in the production of inflectional morphemes. The dominance of misformation errors suggests that students possess a surface-level awareness of the past tense marker; they recognize that an ending must be produced, yet lack the phonological competence to select the appropriate allophonic variant. A cross-categorical analysis further revealed a clear hierarchy of difficulty among the three allophones: /t/ (100% error rate) > /d/ (87%) > /ɪd/ (58%). This hierarchy reflects an inverse relationship between allophonic difficulty and orthographic transparency, where the /ɪd/ allophone proved comparatively more accessible because its phonetic form most closely resembles the written *-ed*. By contrast, the /t/ allophone yielded a perfect error rate, with no student producing a phonologically accurate realization across any of the twenty test items in this category.

Two interacting causal factors were identified as underlying these errors. The first is interlingual interference from Indonesian, which manifested in two distinct ways: the deeply ingrained orthographic reading habit; whereby students process written *-ed* as a literal phonological sequence and the absence of word-final voicing distinctions in Indonesian

phonology, which undermined students' ability to apply the voicing-conditioned allophonic rules of English. The second factor is intralingual overgeneralization, driven by the near-total absence of explicit phonological instruction on the three-way allophonic distinction. Nine out of ten students confirmed that they had never received direct instruction on these rules, leading them to default universally to a syllabic /ɪd/ realization regardless of phonological environment.

These findings underscore the urgent need for targeted phonological instruction that explicitly addresses the voiced-voiceless distinction and the allophonic conditioning rules governing *-ed* pronunciation. Effective pedagogical intervention should combine explicit rule teaching, systematic phonological awareness training, and sustained oral practice with corrective feedback, in order to bridge the persistent gap between students' morphological knowledge and their oral phonological performance.

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