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The Effectiveness of Podcasts in Developing New Media Skills among University Students: A Quasi-Experimental Study on Al-Azhar University Media Students

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Abstract

This study aimed to examine the effectiveness of podcasts as a new communication tool in fulfilling a constant media function—education—specifically by developing certain new media skills among university students, within the framework of Media Richness Theory. The study employed both the descriptive-analytical method and a quasi-experimental design. The sample consisted of 40 female students from the second and fourth years of the Media Department at Al-Azhar University. A training intervention was implemented that included ten podcast episodes (video-based). Multiple data collection tools were applied: a cognitive achievement test, performance observation checklists for audio and video podcast production, product evaluation rubrics, and an attitude scale toward podcast use. The results revealed statistically significant improvements in cognitive knowledge, skill performance, and product quality among the students, in addition to the formation of positive attitudes toward using podcasts in learning media skills. The findings indicate the feasibility of integrating podcasts into practical and field training, with emphasis on concise instructional design and on-demand accessibility of content. The study recommends expanding the use of video podcasts and training faculty members to produce and integrate them into skill-based courses.

Keywords: New Media Skills, Audio Podcasts, Video Podcasts.

Introduction

Recent years have witnessed a remarkable expansion in the use of digital media in higher education, most notably podcasts, which combine ease of production, accessibility at any time, and the ability to integrate audio and video in ways that align with the characteristics of the digital media generation. The literature has confirmed that employing podcasts in educational environments contributes to raising levels of cognitive achievement, enhancing practical skills, and fostering positive attitudes toward autonomous and independent learning (Rahimi & Ghahdarijani, 2020).

Given the specificity of media disciplines, which require students to acquire the ability to produce integrated digital content in line with professional standards, the need arises to test the effectiveness of podcasts as an instructional tool within media colleges. Accordingly, this study seeks to investigate the impact of employing podcasts in developing new media skills among university students. A quasi-experimental approach was adopted at Al-Azhar University, which included the preparation of instructional podcast episodes to train students on new media skills, followed by

tasks requiring them to produce their own audio and video content. This approach enabled the integration of theoretical and practical aspects within a framework of practice-based learning.

To measure the educational impact of podcasts, the study employed four primary tools: a cognitive achievement test, observation checklists to assess performance in audio and video podcast production, product evaluation rubrics, and an attitude scale to capture the affective dimension. Through this, the study aims to provide a practical model that contributes to the advancement of media teaching methods in Arab universities and supports the integration of modern digital media into the educational process.

Research Questions

Study is guided by the following research questions: 1-1 What is the effectiveness of using podcasts in developing the cognitive dimension of producing and publishing audio and video podcasts among the participating students? 1-2 Are there statistically significant differences between second-year and fourth-year students in

the post-test scores of the cognitive achievement test? 1-3 What is the effectiveness of using podcasts in developing the practical skills of producing and publishing audio podcasts among the participating students? 1-4 Are there statistically significant differences between second-year and fourth-year students in the post-test scores of audio podcast production and publishing performance? 1-5 What is the effectiveness of using podcasts in developing the practical skills of producing and publishing video podcasts among the participating students? 1-6 Are there statistically significant differences between second-year and fourth-year students in the post-test scores of video podcast production performance? 1-7 What is the effectiveness of using podcasts in improving the quality of audio podcast products among the participating students? 1-8 Are there statistically significant differences between second-year and fourth-year students in the post-test scores of audio podcast product quality? 1-9 What is the effectiveness of using podcasts in improving the quality of video podcast products among the participating students? 1-10 Are there statistically significant differences between second-year and fourth-year students in the post-test scores of video podcast product quality? 1-11 What are the students' viewing patterns of podcast episodes before and after the intervention? 1-12 What are the descriptive statistics of students' attitudes toward using podcasts in learning media skills (pre- and post-test)? 1-13 Are there statistically significant differences between the pre-test and post-test scores of students' attitudes toward using podcasts? 1-14 Are there statistically significant differences between second-year and fourth-year students in the post-test scores of attitudes toward using podcasts?

Research Objectives

The current study aims to examine the effectiveness of podcasting as a media broadcasting technology in developing the cognitive dimension related to producing and

publishing audio and video podcasts among the participating students. To assess the effectiveness of podcasting in enhancing the practical skills of producing and publishing audio and video podcasts among the participating students. To verify the effectiveness of podcasting in improving the quality of students' audio and video podcast products. To identify the attitudes of the participating students toward the use of podcasts in education.

Background and Literature Context

Podcasts as a New Media Tool

The term podcast first appeared in 2004, composed of two parts: "pod," referring to Apple's iPod device, and "cast," derived from "broadcasting." Over time, podcasts evolved from recorded radio content uploaded online into an independent industry supported by platforms such as Spotify and Apple Podcasts. Today, podcasts are considered part of new media, characterized by interactivity and multi-platform dissemination.

Baran (2020) demonstrated that integrating podcasts into media curricula enables students to practice professional roles such as presenter, director, and editor. McHugh (2020) examined the transformations of narrative audio in the podcast era, emphasizing the medium's flexibility in addressing social and cultural issues while introducing new forms of narrative journalism. Spinelli and Dann (2019) argued that podcasts represent a new auditory culture transcending traditional broadcasting, providing both producers and audiences with greater independence. Collectively, these studies indicate that podcasts are not merely technical tools but cultural and professional spaces, reinforcing their value as training resources in higher education media programs.

Podcasts in Higher Education

Podcast applications have expanded into multiple educational fields:

Language Learning: Tao and Xu (2022) found that podcasts improved listening and pronunciation skills among English as a Foreign Language learners, reinforcing autonomous learning.

Education: Rahimi and Ghahdarijani (2020) reported that podcasts enhanced reading comprehension among Iranian secondary students by increasing engagement and immersion.

Medical Sciences: A recent review highlighted podcasts as flexible and effective for medical students and residents, particularly for updating knowledge during clinical duties (ScienceDirect, 2025). Laupichler et al. (2025) showed that students who produced their own podcasts achieved significantly better outcomes than those limited to listening, supporting practice-based learning principles.

Podcasts in Media Education

Within media studies, podcasts function as ideal practice-based learning tools. López-Rodríguez et al. (2024) demonstrated that producing podcasts improved students' narrative, editing, and teamwork skills. García-Ruiz et al. (2025) confirmed that integrated production projects enhanced professional confidence and creativity. Abdous et al. (2019) compared blended podcast integration with supplemental use, concluding that full integration was more effective in developing practical skills. These findings highlight the importance of podcasts as core elements in media education rather than optional supplements.

Vodcasts versus Audio Podcasts

A key question concerns whether audio or video podcasts are more effective. Kuyumcu (2021) suggested that vodcasts (video podcasts) are richer media, enabling practice in on-camera performance, body language, and lighting, whereas audio podcasts are more suitable for training in scriptwriting and voice control. A study published in RESSAT (2025) showed that students' preferences vary depending on learning goals: vodcasts are more effective for performance-based skills, while audio podcasts suit auditory and linguistic skills. Laupichler et al. (2025) concluded that combining both modalities yields optimal results.

Media Richness Theory

Daft and Lengel (1986) introduced Media Richness Theory to explain the effectiveness of communication channels in reducing ambiguity, later applied to digital and educational media. Valacich et al. (1993) identified eight criteria for media richness: immediacy of feedback, multiplicity of cues, natural language, personal focus, multiple orientations, external recording, computational memory, and synchronicity.

Research indicates that vodcasts qualify as rich media, integrating sound, image, and movement, while audio podcasts represent medium richness. Rich media foster social presence, immersion, and learner satisfaction (Sheer, 2020). Dennis et al. (2008) further noted that synchronous and asynchronous platforms have reshaped understandings of media richness in the digital age.

Accordingly, the current study applies Media Richness Theory as a framework for interpreting the effectiveness of podcasts in media education, evaluating how different degrees of richness influence the acquisition of professional media skills.

Application of the Theory in the Current Study

The study draws on Media Richness Theory to explain how podcasts—considered rich media—can enhance students’ understanding, reduce uncertainty, and facilitate communication. The researcher applied the eight richness criteria as follows:

Immediacy of feedback: Although podcasts are asynchronous, RSS feeds enable rapid updates, notifications, and audience feedback loops.

Multiplicity of cues: Podcasts integrate multiple symbols, including sound, video, graphics, and hyperlinks.

Natural language: Podcasts often employ conversational language and interactive commentary between producers and audiences.

Personal focus: Tailored content allows producers to address audience needs directly, enhancing relevance and connection.

Multiple orientations: Podcasts can simultaneously deliver content to diverse audiences via broad distribution channels such as RSS.

External recording: Episodes are archived for future retrieval, creating a lasting record.

Computational memory: Digital platforms allow flexible search and categorization through tags and metadata.

Synchronicity: Despite being largely asynchronous, podcasts enable interaction with multiple users in near real-time through updates and comments.

Through these dimensions, podcasts demonstrate characteristics of rich media capable of influencing audiences and enhancing communication. The study also applied this theory in constructing the scale measuring

students’ attitudes toward podcasts, emphasizing social presence, perceived effectiveness, and the impact on final outputs.

Emerging Trends

Recent literature emphasizes the integration of artificial intelligence and interactivity in podcast design. Kim et al. (2024) reported that AI-driven personalization of audio content increased learner motivation, while Zhou et al. (2025) found that embedding reflective questions within episodes enhanced critical thinking, though some learners perceived it as reducing enjoyment. These insights highlight opportunities for podcasts as interactive educational tools combining advanced technology with media practice.

The Arab Context

The Arab world has witnessed rapid growth in podcasting. A report by the Dubai Press Club (2024) noted that the industry is expanding, offering new opportunities for media platforms. In the UAE, Askar et al. (2024) found that youth employ podcasts for cultural and educational purposes. In Saudi Arabia, Al-Mutairi (2022) reported that university-based podcasting enhanced editing and performance skills, while a study in *Frontiers in Communication* (2025) documented the role of podcasts in promoting cultural awareness among Saudi youth. In Egypt, Abdelrahman (2021) highlighted podcasts as alternative platforms empowering youth and women to voice their issues.

Final Discussion of the Literature

The review of prior research indicates that podcasts are versatile educational tools across disciplines, but their role in media education is particularly significant due to the profession’s practical nature. Most studies, however, focused on a single dimension—cognitive, skill-based, product evaluation, or attitudinal. The present study fills this gap by employing both audio and

video podcasts in a quasi-experimental design and measuring their impact across all four dimensions simultaneously: cognitive, skill, product quality, and attitudinal. This comprehensive approach contributes a unique methodological and applied addition to the literature on higher education in media studies.

Material and Methods

Research Design

This study adopted a quantitative quasi-experimental design (pre-test/post-test with the same group) to measure the effectiveness of employing audio and video podcasts in developing media skills among Al-Azhar University students. The evaluation focused on three dimensions: cognitive achievement, practical performance, and product quality, in addition to students' attitudes toward podcast use. This design was deemed appropriate for the applied purpose of the study, as it allows direct assessment of the educational intervention's impact on the same group.

Participants

The purposive sample consisted of 40 female students from the Department of Journalism and Media – Girls Section (24 from the second year and 16 from the fourth year). The inclusion of two academic levels was intended to account for differences related to prior experience. Participants were selected from volunteers, considering institutional requirements (a female-only learning environment) and the practical needs of communication and implementation.

Research Tools

A set of research instruments was developed to measure the targeted outcomes:

- Cognitive Test (37 items: multiple-choice/true–false) designed to assess concepts and procedures related to the production and publishing of podcasts.
- Performance Observation Checklists (audio/video) to evaluate observable behavioral indicators across the stages of pre-production, production, post-production, and publishing, scored on four levels.
- Product Evaluation Rubrics (audio/video) based on professional quality standards, with four performance levels for the produced episodes.
- Attitude Scale toward Podcast Use (five-point Likert) to measure exposure, affective orientations, and perceptions of the medium.

All instruments underwent expert validation (media, educational technology, and educational statistics specialists) to ensure content validity and appropriateness of wording.

Validity and Reliability of the Instruments

- Content Validity: Achieved through expert review, with structural revisions (addition, deletion, relocation of indicators) to refine alignment and weighting.
- Pilot Study: Conducted with 10 students to verify clarity of instructions and appropriateness of timing.

Reliability

- Cognitive Test: Test–retest reliability with a high Pearson correlation, indicating acceptable temporal consistency.
- Observation Checklists and Product Rubrics: Inter-rater reliability calculated using Holsti's formula, yielding agreement ratios above the standard threshold (>0.85).

- Attitude Scale: Test–retest reliability (Pearson) produced a high correlation value, reflecting response consistency.

Experimental Program (Intervention)

A video podcast program entitled “The World of Podcasting” was developed, consisting of ten episodes covering the skills of pre-production, production, post-production, and publishing for both audio and video formats.

Development Stages:

- Analysis and Design: Defining measurable objectives, preparing content and scripts, and aligning with learners’ characteristics.
- Production and Post-Production: Audio recording, visual identity design, editing using Final Cut Pro, and preparation of metadata.
- Publishing and Distribution: Hosted on Blogger with RSS feeds via FeedBurner, episodes made available through a private YouTube channel, and linked to social media platforms (Facebook/WhatsApp) for accessibility.
- Learning Strategy: Flipped classroom—students first accessed content independently, followed by hands-on training in the studio through regular practical workshops.

Implementation Procedures

- Pre-test: Application of the cognitive test, attitude scale, and observation checklists, along with production of two baseline episodes (audio/video) for initial product evaluation.
- Educational Intervention: Two episodes broadcast weekly, accompanied by continuous technical and communication support (Facebook page/WhatsApp group) and studio-based workshops.

- Post-test: Re-application of the four instruments, followed by production of two final episodes, uploaded privately on SoundCloud/YouTube, and evaluated using quality rubrics.
- Bias Control: Observations and evaluations conducted by two independent raters in addition to the researcher, with average scores calculated to minimize subjectivity.

Data Analysis

Data were analyzed using SPSS, employing:

- Descriptive statistics (means, standard deviations).
- Paired-sample t-tests to examine differences between pre- and post-measures within the group.
- Independent-sample t-tests to compare post-test results of the two cohorts.
- Effect size estimation where relevant to strengthen practical significance.

Ethical Considerations

The study obtained necessary institutional approvals, ensured confidentiality of student data, and maintained cultural sensitivity by publishing video content in non-public mode.

Study Limitations

- Population: Restricted to 40 female students from two cohorts in the Department of Journalism and Media – Girls Section.
- Timeframe: One semester covering intervention, training, and post-assessment.
- Setting: Conducted in the department’s studio facilities.
- Scope: Focused on skills of producing and publishing audio and video podcasts and

related attitudes; excluded comparisons with other immersive or interactive media (e.g., virtual reality).

Results

To answer the first research question, “What is the effectiveness of using podcasts in developing the cognitive dimension of producing and publishing audio and video podcasts among the participating students?”, the results of the achievement test (pre-test and post-test) were analyzed.

Table 1:

T-test results for the differences between pre- and post-test mean scores of the study sample on the cognitive achievement test

Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	t-value	df	Sig. level	Significance at (0.05)
Second year	4.63	2.34	32.50	3.90	35.70	23	0.00	Significant
Fourth year	16.00	4.97	34.06	2.02	13.64	15	0.00	
Whole sample	9.18	6.68	33.13	3.34	23.07	39	0.00	

Source: Prepared by the researcher.

The data show statistically significant differences at the 0.01 level between the pre-test and post-test mean scores in favor of the post-test for both the second- and fourth-year cohorts, as well as the overall sample. This indicates the effectiveness of podcasts in enhancing students' cognitive achievement.

To answer the second research question, “Are there statistically significant differences between second year and fourth-year students in the post-test scores of the cognitive achievement test?”, an independent-sample t-test was conducted.

Table 2:

T-test results for the differences between second- and fourth-year students in the post-test of the cognitive achievement test

Group	Post-test Mean	Post-test SD	t-value	df	Sig. level	Significance at (0.05)
Second-year	32.50	3.90	1.47	38	0.15	Not Significant
Fourth-year	34.06	2.02	1.47	38	0.15	Not Significant

Source: Prepared by the researcher.

The results in Table 2 show no statistically significant differences at the 0.05 level between the mean scores of second- and fourth-year students in the post-test. This indicates that the effect of podcasts on cognitive achievement was comparable for both cohorts, regardless of academic level or prior experience.

To answer the third research question regarding the effectiveness of using podcasts in developing practical skills, observation checklists were used. The results are shown in Table 3.

Table 3:

T-test results for the pre- and post-test mean scores of the observation checklist for audio podcast production skills

Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	t-value	df	Sig. level	Significance at (0.01)
Second-year	23.20	3.14	57.81	3.49	37.21	23	0.00	Significant
Fourth-year	43.58	14.73	59.65	2.18	4.77	15	0.00	
Whole sample	31.35	13.84	58.54	3.14	13.32	39	0.00	

The data in Table 3 indicate statistically significant differences at the 0.01 level between pre-test and post-test scores for both groups and

the overall sample, confirming the effectiveness of podcasts in developing audio podcast production skills.

To answer the fourth research question, “Are there statistically significant differences between second year and fourth-year students in the post-test scores of audio podcast production and publishing performance?”, an independent-sample t-test was conducted.

Table 4:

T-test results for the differences between second- and fourth-year students in the post-test of audio podcast production and publishing performance

Group	Mean	SD	t-value	df	Sig. level	Significance at (0.05)
Second-year (n=24)	57.81	3.49	1.88	38	0.07	Not significant
Fourth-year (n=16)	59.65	2.18	1.88	38	0.07	Not Significant

Source: Prepared by the researcher.

Interpretation: The results in Table 4 indicate no statistically significant differences at the 0.05 level between second- and fourth-year students in the post-test of audio podcast performance. This suggests that the podcast intervention had a similar impact on both groups regardless of their academic level.

To answer the fifth research question, “What is the effectiveness of using podcasts in developing students’ video podcast production and publishing performance?”, the pre-test and post-test mean scores were compared.

Table 5:

T-test results for the differences between pre- and post-test mean scores of the study sample

on the video podcast production performance observation card

Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	t-value	df	Sig. level	Significance at (0.05)
Second-year	40.29	4.82	113.33	7.06	46.17	23	0.00	Significant
Fourth-year	80.12	28.29	113.06	8.62	5.80	15	0.00	
Whole sample	56.22	26.68	113.22	7.61	14.37	39	0.00	

Source: Prepared by the researcher.

Interpretation: As shown in Table 5, statistically significant differences were found at the 0.01 level in favor of the post-test across both second- and fourth-year students, as well as the overall sample. This highlights the effectiveness of podcasts in improving students’ video podcast production performance.

To answer the sixth research question, “Are there statistically significant differences between second-year and fourth-year students in the post-test scores of the video podcast production performance observation card?”, an independent-sample t-test was conducted.

Table 6:

T-test results for the differences between second- and fourth-year students in the post-test of video podcast production and publishing performance

Group	Mean	SD	t-value	df	Sig. level	Significance at (0.05)
Second-year (n=24)	113.33	7.06	0.11	38	0.914	Not Significant
Fourth-year (n=16)	113.06	8.62	0.11	38	0.914	

Source: Prepared by the researcher.

Interpretation: The results in Table 6 indicate no statistically significant differences at the 0.05 level between second- and fourth-year students in the post-test. This suggests that the podcast intervention had a similar impact on both groups in developing video podcast production performance, regardless of academic level.

To answer the seventh research question, “What is the effectiveness of using podcasts in improving the quality of audio podcast products among the participating students?”, a paired-sample t-test was conducted to compare pre-test and post-test scores using the product evaluation rubric.

Table 7:

T-test results for the differences between pre- and post-test mean scores of the study sample on the audio podcast product evaluation rubric

Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	t-value	df	Sig. level	Significant at (0.05)
Second-year	14.47	1.46	30.99	1.20	50.50	23	0.000	Significant
Fourth-year	18.29	3.88	29.98	1.99	18.76	15	0.000	
Whole sample	16.00	3.26	30.58	1.62	29.71	39	0.000	

Source: Prepared by the researcher.

Interpretation: The results in Table 7 indicate statistically significant differences at the 0.01 level in favor of the post-test for both the second- and fourth-year cohorts, as well as the overall sample. This demonstrates the effectiveness of podcasts in improving the quality of audio podcast products.

To answer the eighth research question, “Are there statistically significant differences between second year and fourth-year students in the post-test scores of the audio podcast product evaluation card?”, an independent-sample t-test was conducted.

Table 8:

T-test results for the differences between second- and fourth-year students in the post-test of the audio podcast product evaluation card

Group	Mean	SD	t-value	df	Sig. level	Significant at (0.05)
Second-year (n=24)	30.99	1.20	2.00	38	0.053	Not Significant
Fourth-year (n=16)	29.98	1.99	2.00	38	0.053	

Source: Prepared by the researcher.

Interpretation: The results in Table 8 indicate no statistically significant differences at the 0.05 level between second- and fourth-year students in the post-test scores of the audio podcast product evaluation card. This suggests that the impact of podcasts on audio product quality was comparable regardless of academic level or prior experience.

To answer the ninth research question regarding the effectiveness of podcasts in improving the quality of video podcast products, a paired-sample t-test was conducted to compare the pre-test and post-test mean scores.

Table 9:

T-test results for the differences between pre- and post-test mean scores of the study sample on the video podcast product evaluation card

Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	t-value	df	Significant e at (0.01)
Second-year	15.92	1.68	37.60	1.74	47.69	23	Significant
Fourth-year	19.79	2.70	35.88	2.82	22.97	15	
Whole sample	17.47	2.86	36.91	2.36	33.27	39	

Source: Prepared by the researcher.

Interpretation: As shown in Table 9, statistically significant differences were found at the 0.01 level in favor of the post-test across both second- and fourth-year students, as well as the overall sample. This demonstrates the effectiveness of using podcasts in improving the quality of students' video podcast products.

To answer the tenth research question, "Are there statistically significant differences between second year and fourth-year students in the post-test scores of the video podcast product evaluation card?", an independent-sample t-test was conducted.

Table 10:

T-test results for the differences between second- and fourth-year students in the post-test of the video podcast product evaluation card

Group	Mean	SD	t-value	df	Significant e at (0.05)
Second-year (n=24)	37.60	1.74	2.39	38	Significant
Fourth-year (n=16)	35.88	2.82	2.39	38	

Source: Prepared by the researcher.

Interpretation: The results in Table 10 indicate statistically significant differences at the 0.05 level in favor of second-year students in the post-test. This suggests that the second-year cohort

benefited more from the experimental treatment in producing video podcasts compared to the fourth-year cohort.

To answer the eleventh research question regarding students' viewing patterns of the podcasts before and after the intervention, the results were analyzed as shown in Table 11.

Table 11:

Students' podcast viewing patterns before and after the intervention

Item	Options	Pre-test Count (%)	Post-test Count (%)
Did you watch podcast episodes?	Yes	40 (100%)	40 (100%)
Did you watch podcast episodes?	No	0 (0%)	0 (0%)
How many podcast episodes did you watch?	More than three	16 (40%)	39 (97.5%)
How many podcast episodes did you watch?	Three episodes	5 (12.5%)	1 (2.5%)
How many podcast episodes did you watch?	Two episodes	11 (27.5%)	0 (0%)
How many podcast episodes did you watch?	One episode	8 (20%)	0 (0%)
Device used	PC	6 (15%)	5 (12.5%)
Device used	Smartphone	23 (57.5%)	22 (55%)
Device used	Tablet	11 (27.5%)	13 (32.5%)
How did you watch?	Downloaded	6 (15%)	17 (42.5%)
How did you watch?	Direct from blog	34 (85%)	23 (57.5%)

Source: Prepared by the researcher.

Interpretation: Table 11 shows that most students (97.5%) watched more than three episodes in the post-test compared to 40% in the pre-test, with noticeable improvement in using podcast applications. Smartphones remained the primary device for podcast viewing.

To answer the twelfth research question regarding students' attitudes toward using

podcasts in learning media skills, descriptive statistics were calculated as shown in Table 12.

Table 12:

Descriptive statistics of the attitude scale toward using podcasts in learning media skills

Group	Application	Mean	SD	Weighted Mean	Attitude Level
Second-year	Pre-test	40.54	3.56	2.03	Weak
	Post-test	78.17	17.45	3.91	High
Fourth-year	Pre-test	70.88	20.13	3.54	High
	Post-test	88.69	10.07	4.43	Very High
Whole sample	Pre-test	52.68	19.74	2.60	Weak
	Post-test	82.38	15.68	4.10	High

Source: Prepared by the researcher.

Interpretation: Table 12 indicates a marked improvement in attitudes toward using podcasts in the post-test. Attitudes rose from “Weak” to “High” among second-year students and from “High” to “Very High” among fourth-year students.

To answer the thirteenth research question, paired-sample t-tests were conducted to compare pre- and post-test scores on the attitude scale, as presented in Table 13.

Table 13:

T-test results for pre- and post-test scores on the attitude scale

Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD	t-value	df	Sig. level	Significant at (0.05)
Second-year	40.54	3.56	78.17	17.45	9.73	23	0.000	Significant
Fourth-year	70.88	20.13	88.69	10.07	3.01	15	0.010	
Whole sample	52.68	19.74	82.38	15.68	8.20	38	0.000	

Source: Prepared by the researcher.

Interpretation: Significant differences ($p < .05$) were found in favor of the post-test for both

cohorts and the whole sample, indicating the effectiveness of podcasts in improving students' attitudes toward their use.

To answer the fourteenth research question, “Are there statistically significant differences between second-year and fourth-year students in the post-test scores on the attitude scale toward using podcasts?”, an independent-samples t-test was conducted (Table 14).

Table 14:

T-test results for differences between second- and fourth-year students on the post-test of the attitude scale

Group	Mean	SD	t-value	df	Sig. level	Significant at (0.05)
Second-year (n=24)	78.17	17.45	2.93	38	0.036	Significant
Fourth-year (n=16)	88.69	10.07	2.93	38	0.036	

Source: Prepared by the researcher.

Interpretation: As shown in Table 14, there is a statistically significant difference in favor of fourth-year students on the post-test attitude scores. Notably, the growth rate in attitudes was greater among second-year students.

Discussion

The findings of this study confirm its objectives in evaluating the effectiveness of podcasts in developing cognitive, practical, and affective media skills among female media students at Al-Azhar University. The discussion proceeds along two integrated dimensions: (1) related previous studies, and (2) the theoretical framework, specifically Media Richness Theory and its variables.

1. Discussion of the Cognitive Dimension

The results showed statistically significant differences in favor of the post-test in the achievement test, affirming the effectiveness of podcasts in raising students' cognitive levels. This aligns with Media Richness Theory (Daft & Lengel, 1986; Valacich et al., 1993), which posits that rich media can more effectively convey complex knowledge and enhance communication outcomes through synchronicity, task-fit, and reduced ambiguity. It also corresponds with Rahimi & Ghahdarijani (2020), who found that podcasts improved reading comprehension among high school students, and Tao & Xu (2022), who reported enhanced listening and pronunciation skills in language learning. Hence, this study extends the evidence to the media field, not just education or language studies.

The absence of significant differences between second- and fourth-year students in the post-test suggests that podcasts bridged prior knowledge gaps, enabling second-year students to catch up with their senior peers. This pattern is consistent with research showing that media-supported learning can accommodate individual differences and accelerate advancement to higher proficiency levels.

2. Discussion of the Practical Skills Dimension

The results also revealed statistically significant improvements in both audio and video podcast performance observation cards, reflecting the role of rich media in fostering practical skills. This aligns with scholarship highlighting the centrality of “learning by doing,” where actual production tasks serve as strong motivators for professional skill acquisition (López-Rodríguez et al., 2024; García-Ruiz et al., 2025). The current study validates these findings in an Arab university media context, broadening the empirical evidence base.

The lack of significant differences between the two cohorts in post-test skill performance suggests that the enriched learning

environment—with its instructional episodes, practical demonstrations, and continuous feedback—promoted convergence in skill mastery. This can be explained through Media Richness Theory, which emphasizes that rich media are more suitable for complex tasks because they enable multi-symbol communication and parallel channels for comprehension and processing.

3. Discussion of Product Quality

The findings indicated clear post-test improvements in product quality across the sample, with no significant differences between cohorts for audio podcasts and only limited differences favoring second-year students in video podcasts. These results reflect the positive impact of integrating theory with practice. The overall improvement in quality also resonates with studies linking integrated production assignments to enhanced creativity, confidence, and final performance (García-Ruiz et al., 2025; López-Rodríguez et al., 2024).

The superiority of second-year students in video podcast production—despite their lower prior knowledge—may be attributed to higher motivation after the intervention, the novelty effect, and fewer external pressures, whereas fourth-year students faced graduation project demands. This finding is also consistent with Spinelli and Dann (2019), who described podcasting as a cultural platform fostering autonomy and innovation. Thus, training students in podcast production not only improves achievement but also translates into higher quality professional outputs.

4. Discussion of Attitudes toward Podcasts

The results showed a clear development of positive attitudes toward podcast use, reflecting students' recognition of its educational and media value. The mean scores on the attitudes scale rose from “weak/moderate” levels in the pre-test to “high/very high” levels in the post-test, indicating stronger acceptance and motivation. This finding

corresponds with regional and Arab research showing students' and youth's acceptance of podcasts as tools for knowledge, skill development, and cultural awareness (Abdelrahman, 2021; Al-Mutairi, 2022; Askar et al., 2024).

From a theoretical perspective, this growth in positive attitudes can be explained by Media Richness Theory, which highlights the role of social presence and perceived gratification offered by rich media in fostering engagement and positive orientations (Sheer, 2020; Wang et al., 2022).

Limitations

- **Sample:** Limited to 40 female students from the second and fourth years of the media department at Al-Azhar University, restricting generalizability to other student groups or universities.
- **Gender:** The study involved only female students, due to academic, social, and ethical considerations, limiting the applicability of findings to both genders.
- **Timeframe:** Conducted over a single semester (approximately 44 days), which may not capture long-term effects of podcast use.
- **Instruments:** Relied on structured instruments (achievement test, observation checklists, product evaluation rubrics, attitude scale), but did not include extended field observations or in-depth interviews that could reveal deeper qualitative dimensions.
- **Context:** Findings are specific to the educational environment of Al-Azhar University in Egypt and cannot be directly generalized to other contexts or countries.

Recommendations

At the level of curricula and academic programs

- Integrate audio and video podcasts into media courses through comprehensive production projects with clearly defined rubrics.
- Incorporate podcast production skills as targeted learning outcomes in media curricula to enhance cognitive, practical, and affective domains.
- Encourage students to create student-led podcast platforms to showcase their work, linking education to the media labor market and fostering creativity.

At the level of infrastructure and institutional support

- Provide small studios, recording equipment, and editing tools within the university, along with flexible technological resources for individual use.
- Develop training units for faculty members on designing podcast-based instructional activities aligned with professional standards and accreditation requirements.

At the level of research and development

- Conduct comparative studies between audio and video podcasts to assess the suitability of each for different skills (narration, on-camera performance, editing, distribution).
- Explore the impact of integrating podcasts with other rich learning technologies such as interactive video or virtual reality.
- Broaden future studies to include both genders, multiple specializations, and varied academic levels to strengthen external validity.

Conclusion

This study confirms that podcasts are not merely supplementary tools in media education but integrated instruments capable of enhancing

cognitive achievement, developing practical skills, improving product quality, and shaping positive student attitudes. Statistically significant differences between pre- and post-tests across all dimensions highlight the impact of the intervention.

These findings are consistent with Media Richness Theory, which explains how rich media enhance educational efficiency, social presence, and interaction, and align with prior Arab and international research on the role of podcasts in keeping pace with technological developments and connecting students with professional practice.

Accordingly, this study stands as a distinctive contribution to Arab scholarship by employing a quasi-experimental design that integrated both audio and video podcasts, applied multi-dimensional measurement tools, and demonstrated results that broaden the potential for incorporating podcasts into higher media education.

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فاعلية البودكاست في تنمية مهارات الإعلام الجديد لدى طلاب الجامعة: دراسة شبه تجريبية على طلاب الإعلام بجامعة الأزهر

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الملخص:

هدفت هذه الدراسة إلى فحص فاعلية البودكاست بوصفه أداة اتصال حديثة في أداء وظيفة إعلامية ثابتة هي التعليم، وذلك عبر تنمية بعض مهارات الإعلام الحديث لدى طلاب الجامعة، ضمن إطار نظرية ثراء الوسائط. استخدمت الدراسة المنهج الوصفي-التحليلي إلى جانب التصميم شبه التجريبي. تكونت العينة من (٤٠) طالبة من الفئتين الثانية والرابعة بقسم الإعلام في جامعة الأزهر. ونُفذت معالجة تدريبية تضمنت عشر حلقات بودكاست مرئي. واعتمدت الدراسة عدة أدوات لجمع البيانات: اختبار للتحصيل المعرفي، وقوائم ملاحظة أداء لإنتاج البودكاستين الصوتي والمرئي، وسلالم (محكات) لتقويم المنتج، ومقياس اتجاه نحو استخدام البودكاست. كشفت النتائج عن تحسّات ذات دلالة إحصائية في المعرفة المعرفية، وأداء المهارات، وجودة المنتج لدى الطالبات، إلى جانب تكوّن اتجاهات إيجابية نحو استخدام البودكاست في تعلّم المهارات الإعلامية. وتدل النتائج على جدوى دمج البودكاست في التدريب العملي والميداني، مع التأكيد على التصميم التعليمي الموجز وإتاحة المحتوى حسب الطلب. وتوصي الدراسة بتوسيع استخدام البودكاست المرئي وتدريب أعضاء هيئة التدريس على إنتاجه ودمجه في المساقات المعتمدة على المهارات.

الكلمات المفتاحية:

مهارات الإعلام الحديثة؛ البودكاست الصوتي؛ البودكاست المرئي.