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Developing an integrated RIASEC-QR code quartet game: a design and validation study for enhancing personality-based career understanding

Sarah Shafa Zahrani*), Abdullah Sinring, M. Amirullah
Universitas Negeri Makassar

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ABSTRACT

Students at MAN Kepulauan Selayar face serious challenges in making career decisions due to a lack of understanding of careers according to their personality types. This development research aims to produce RIASEC Quartet media as a career guidance to improve students' career orientation based on John Holland's personality theory. Using DDR with ADDIE (Analysis, Design, Develop, Implement, and Evaluate) design model, data were collected from 64 students using a validated IPKS questionnaire, needs analysis instruments, expert assessment instruments, and small group test instruments. The main product innovation lies in the integration of the traditional quartet card game with QR code technology, which serves as a gateway to a broader digital career information system on Google Sites. The results of the study showed that this media was "Very Valid" with a score of 91.67% from material experts and 97.92% from media experts. Furthermore, the assessment of expert practitioners (Counseling Teacher) and small group tests showed a high practical level of 89%, indicating that this media is effective and interesting to use in the classroom. This study emphasizes that the integration of digital technology into game-based counseling media can overcome the physical limitations of traditional media, as well as provide a more interactive and comprehensive career exploration experience for high school students.

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Corresponding Author:

Sarah Shafa Zahrani,
Universitas Negeri Makassar
Email: sarahshafazahrani1274@gmail.com

Introduction

The Central Bureau of Statistics (BPS) recorded the percentage of the Gross Participation Rate (APK) of Higher Education in 2023 at 31.45%. In fact, the Ministry of Higher Education, Science and Technology (Kemdiktisaintek) targets the value of the Higher Education APK in 2023 to reach 40%. The factor that causes low community participation in pursuing education is the lack of understanding of students in determining the path of their career choices. Similar findings have been carried out by Putri from a startup fostered by Skystar Ventures, Tech Inchubator, Universitas Multimedia Nusantara (UMN), in 2018 Youthmanual, revealed the interesting fact that 92% of high school students in Indonesia feel confused and do not know what they want to achieve in the future. This finding is based on analysis of 400,000 student profiles and data across Indonesia. This problem shows that 92% of high school students in Indonesia do not have good career decision-making, one of which occurs at MAN Kepulauan Selayar.

This is sourced from initial interviews with counseling teachers at MAN Kepulauan Selayar. The interview with the counseling teacher at MAN Kepulauan Selayar on August 4, 2025 revealed that there are still many students who have difficulty in determining career decisions so that they tend to be careless in making decisions. Career decision making is one of the problems that often occurs in high school students. The problem of career confusion is closely related to factors that influence student decision making so it is important to examine the factors that influence career decision making in students. Fadila & Abdullah (2019) in their research revealed that one of the factors that can influence student career decision making is internal factors in the form of career understanding owned by the student. In fact, career understanding is a provision that must be prepared to start a career for someone in order to face the world of work well (Purnasari & Prasetyo, 2022).

A good career understanding is inseparable from a deep understanding of oneself. Amin et al. (2024) show that self-understanding in the career decision-making process plays a role in understanding aspects of self-ability, including strengths and weaknesses, personality, talents and interests so that it will be easier in the process because it already understands itself. Individuals will easily determine their career decisions if accompanied by good self-understanding as well. Self-understanding also includes several aspects, such as interests, talents, values, and personality. Among these aspects, personality plays an important role because it can affect the way a person chooses, plans, and lives his or her career. Personality is a pattern of unique traits and characteristics that are relatively stable, which give consistency and individuality to a person's behavior that determines the typical way for individuals to adapt to the environment (Fatwikiningsih, 2020). Personality is closely related to career interests, so an understanding of careers that is in accordance with personality should be owned by a student. This understanding is important for students who are in the period when they begin to face demands in determining the direction of their education and career. Thus, career understanding according to personality is important to note because it will affect the determination of one's career decisions

The results of the assessment in the form of an Instrumen Pilihan Karir Siswa (IPKS) questionnaire developed by Handani et al. (2023) and distributed by prospective researchers to 64 MAN Kepulauan Selayar students on August 4, 2025 in classes X D, XI B, and XI C showed that 65.6% of students had never taken personality and interest-aptitude tests, 59.4% found it difficult to consider their abilities with the college they were going to, and 68.8% had difficulty finding ways to balance their abilities and desire to get a job. Interviews with some students at MAN Kepulauan Selayar show that they do not yet have a good understanding of careers according to their personalities so that they are confused about their own interests so that decisions related to further study and work/profession choices have not been based on this, most of them do not even have a choice at all regarding majors and future work/profession choices. Thus, it can be concluded that the current career planning at MAN Kepulauan Selayar still needs improvement. This condition shows that there are limitations in career guidance services in schools, so the role of counseling teachers is very important.

Counseling teachers have a crucial role in helping to improve students' career knowledge by understanding the potentials that exist in themselves, helping to understand personality (Pratama, 2022). One of the guidance and counseling services that can be carried out by counseling teachers to identify students' interests and personalities in supporting their career plans is career guidance. One of the functions of career guidance that relates to self-understanding or personality is the adaptation function (Karisma et al., 2025). The adaptation function helps students adapt educational programs to their talents, interests, abilities, and future life needs (Sofiah, 2018). Thus, career guidance that needs to be done is one that focuses on students' self-understanding including personality. Career decision making is based on the potential or personality types of students so that there is no conflict between the chosen career and the potential that exists in students (Thasfa et al., 2023). This is what should be given serious attention by schools in order to avoid such problems for the future of their students.

One of the career guidance theories that focuses on personality aspects is John Holland's theory. Holland's career choice theory provides a framework for understanding the interaction between personal traits and environmental influences (Holland, 1959). Holland's theory pays attention to behavioral characteristics or personality types as the main cause in individual career choices and development (Hidayat et al., 2019). Quoted from Kopsidas (2024) is a classification of Holland's six personality types which are often abbreviated as RIASEC, namely Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. The implementation of Holland's theory in career guidance services is one way to improve career understanding according to personality for students. The success and maximization of career guidance services are also influenced by several factors, one of which is the use of media (Risqiyain & Purwanta, 2019).

The advantage of using media in career guidance services is as an intermediary in delivering information services as a fulfillment of basic guidance and counseling services. Game media such as quartets are

considered effective for helping students understand careers according to personality because they combine visual elements with information in a simple and easy-to-understand form (Krispaty et al., 2025). In the context of counseling services, quartets can be used to convey guidance messages in a fun way so that students more easily understand the career profession that suits their personality. Previous effectiveness research related to quartet card media in career guidance can increase students' career understanding. Qarimah et al. (2025) suggested that the use of visual media in the form of quartets can facilitate professional exploration, strengthen cooperation, career decision making, and build individual confidence significantly. Another study from Hantoro et al. (2022) found that the use of quartets has a good effect in improving career understanding for vocational students. The results of these studies reinforce the urgency of developing visual media such as quartets that are in line with student needs.

Some previous studies have proven that quartet-based career guidance media is quite effective in improving career understanding in students. Although previous studies have proven the effectiveness of quartet cards in improving career understanding (Hantoro et al., 2022; Qarimah et al., 2025), the majority of media developed still have limitations on the depth dimension of information. Conventional RIASEC-based quartet cards generally only present descriptions of professions in the form of very short static texts due to the limited physical size of the cards. This limits students' ability to conduct independent and in-depth career exploration. One of them is that quartet media tends to be simple and small, where the information contained in quartet cards tends to be limited and only covers several similar professions. In addition, the development of quartet cards has not considered the unique personality of each student, so that the variety of professions available is limited. As a solution to the problem, this research develops personality-based quartet cards from Holland's theory by utilizing QR Code technology. By using a QR Code that can be scanned using a smartphone, the information that can be presented in the card becomes broader and deeper. This allows students to access a variety of career information that is more diverse and in accordance with their personality.

The use of QR Code is increasingly widespread because it is only scanned once, it will provide unlimited information from a URL address whose page content can be updated at any time without changing the previous URL address so that updates at any time are possible. Thus, this research fills a gap that has not been widely researched, namely the development of personality-based quartet media and digitization of QR Codes. Based on research by Rakha (2025), it is explained that the integration of QR codes into printed educational materials increases the connection between activities in books and additional online activities.Thus, integrating QR codes in quartet cards as career guidance media is one of the effective solutions for presenting richer and more interactive information related to careers according to the personality of Holland's theory, namely RIASEC to students. Game media combined with a touch of technology can be a combination that aims to improve career understanding according to personality, attract the interest and involvement of students in career guidance, and facilitate student access and guidance media and counseling in accordance with the times. Therefore, researchers offer a solution in the form of media development of career guidance services through RIASEC quartets integrated with QR codes for students.

Method

This research is a type of Design and Development Research (DDR). According to Richey & Klein's (2007) definition, DDR is used to develop instructional products that are systematically validated. The output or product produced in the form of "RIASEC quartets" to improve career understanding according to the personality of students at MAN Kepulauan Selayar. The research and development model used is the ADDIE model for the development of RIASEC quartets. Development with the ADDIE model involves the stages of model development with five development steps/phases including: Analyze, Design, Develop, Implement, and Evaluate (Branch, 2009). Analyze is the stage is a process of defining what the learners will learn, namely conducting a need assessment (needs analysis), identifying problems (needs), and conducting task analysis; Design is to design RIASEC quartet media to improve career understanding according to personality in the form of a prototype; Develop is the process of realizing the blue print aka design earlier into reality; Implement is real steps to implement the learning system that is being created; and Evaluate is the process of seeing whether the learning system being built is successful according to initial expectations or not. The ADDIE development stages used are outlined in figure 1.

This research was conducted at MAN Kepulauan Selayar which is located in Benteng city, Selayar Islands district, South Sulawesi province from December 2025 to January 2026. The sample of this research was MAN Kepulauan Selayar students. The sample of this research was MAN Kepulauan Selayar students, 64 MAN Kepulauan Selayar students at the time of initial data collection and 8 students during the small group trial by sampling purposive sampling technique. Data collection in this study was carried out with questionnaires. Questionnaires were used to analyze student needs, test validity and practicality, and small

groups of students. The student needs questionnaire consists of 2, namely material needs and media design needs using a Guttman scale that has been validated by expert lecturers of Guidance and Counseling. The material validity and media validity instruments use the options range from score 1 (very poor) to score 4 (very good) which has been validated by instrument experts. The teacher and student practicality test instrument uses a Likert scale of 1-4 which has been validated by expert instruments. The data obtained in this study are quantitative data with data analysis used in this research is quantitative data analysis using the formula from Arikunto (2006).

$$P = \frac{\Sigma X}{\Sigma Y} \text{ x } 100\ \%$$

Source: Arikunto (2006)

Description:

P = Percentage

ΣX = Total Score Earned

ΣY = Total Maximum Score

After obtaining the percentage with the formula above, the researcher interprets the percentage results into 4 eligibility criteria, namely very good, good, less good, and very poor. The following is the categorization table:

Table 1. Categorization of Validity and Practicality Test Results

Interval	Qualification	Description
81-100%	Very Good	Very Valid, Very Practical
61-80%	Good	Valid, Practical
41-60%	Less Good	Less Valid, Less Practical
≤ 20-40%	Very Poor	Very Invalid, Very Impractical

Source: Arikunto (2006)

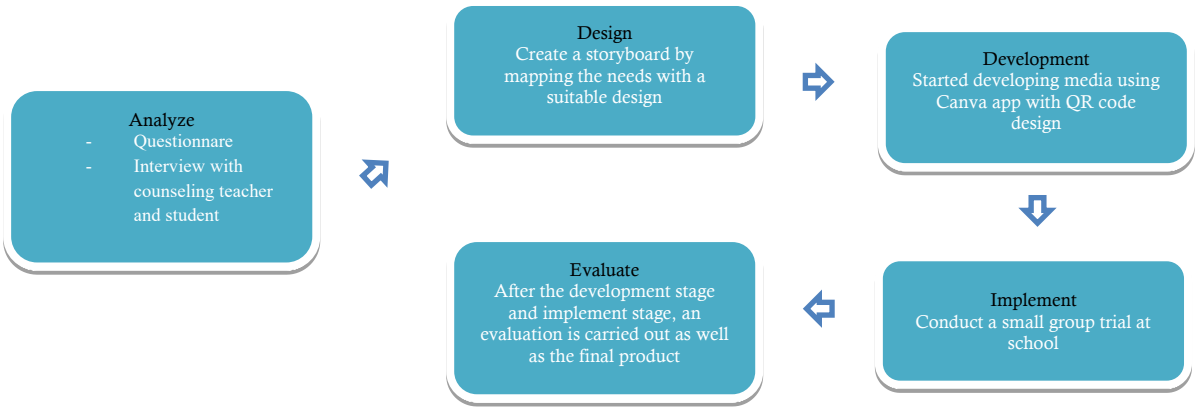


Figure 1. Development Stage

Results and Discussions

Result

RIASEC quartet media to improve career understanding according to student personality at MAN Kepulauan Selayar has gone through a development process through the research stage, the components of the activities carried out through stages, including:

Overview of the Needs of the RIASEC Quartet to Improve Career Understanding according to the Personality of MAN Kepulauan Selayar Students

A needs analysis is required to obtain an overview of the needs of RIASEC quartets to improve career understanding according to students' personalities. An initial overview of the condition of students at MAN Kepulauan Selayar related to whether they need quartet media. This was done by distributing questionnaires and interviews to students and counseling teachers at MAN Kepulauan Selayar. The instruments used by

researchers in conducting media needs analysis are questionnaires. The results of the analysis of the description of the quartet needs as a career guidance media to improve career understanding according to the personality that has been done as follows in table 2 shows the percentage of students' career understanding level based on 'Yes' and 'No' answers.

Table 2. Material Needs Analysis Results

Indicator	Percentage
Self-understanding	63,30%
Analysis of job or further study information	56,30%
Identification of strengths and weaknesses	45,30%
Self-confidence	73,80%
Self-satisfaction	62,50%
Independence	77,60%
Self-development	81,60%
Specific job or further study decisions	66,70%
Personality adjustment to job opportunities	80,10%

The following is a graph to identify the needs of students related to the material of media development:

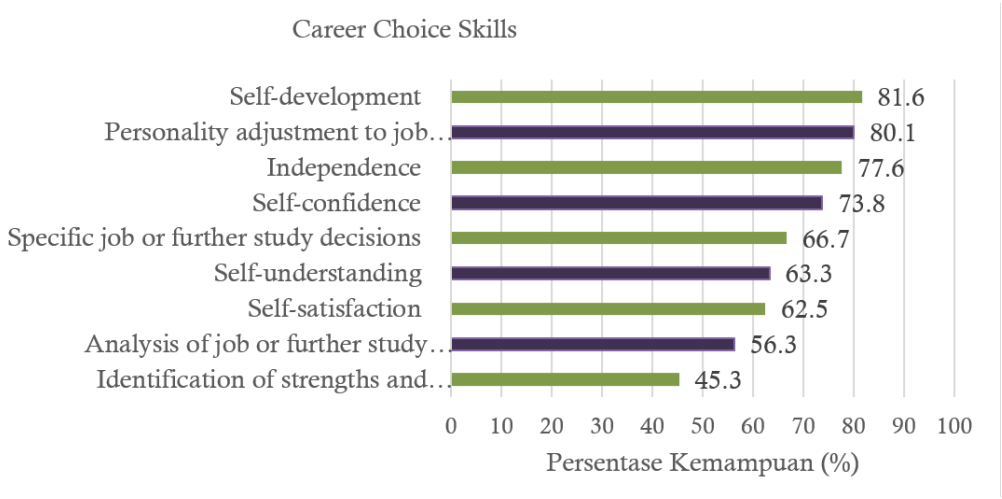


Figure 2. Identification of Student Needs related to Media Development Materials

Based on the results of the needs analysis above, the RIASEC quartet was developed which contains material content related to how students can have an understanding of career selection tailored to their personality to help them determine further studies and types of work / profession that are in accordance with their strengths and weaknesses. In addition, based on the media design needs analysis questionnaire that uses levels based on 'Yes' and 'No' answers presented in table 3 below:

Table 3. Media Needs Analysis Results

Indicator	Percentage
Urgency of development	87,50%
Environmental support	94,53%
Physical and visual specifications	76,56%

Based on the results of the needs analysis above, which obtained specific results on media needs, among others: career guidance media that is run through the game method, career guidance media in the form of print media that can be held directly by integrating technology in the media, career guidance media using language that is easy to understand, has a clear font size to read, has pictures/illustrations to clarify the purpose of the card, and uses unobtrusive pastel colors. Based on the results of the needs analysis above, it can be concluded that a quartet media will be developed that has an attractive design, uses a play method, can be physically held, easy to understand language, uses clear letters to read, has pictures/illustrations, and unobtrusive pastel colors.

RIASEC Quartet Prototype to Improve Career Understanding According to the Personality of Selayar Islands MAN Students

The product design is a career guidance media called "RIASEC Quartet". This quartet is a medium for career guidance services to improve career understanding according to the personality of X and XI grade students. This career development prototype is included in the stages of planning, product development, revision, and final product. The quartet development prototype uses Canva, Google Site, and Pinterest. This RIASEC quartet media consists of 24 cards, one user manual, one use brochure, and one quartet box. On the front of the quartet there is a profession with a picture/illustration with the characteristics of the profession, on the back of the quartet there is a back cover with a QR code that can be scanned, this QR code will direct to a page on Google Site to get additional information related to the personality type of the profession on the front. The usage brochure contains a brief description of how to use the quartet. The user manual contains the complete procedure for using the quartet, along with the RPL and the Holland career key test. Finally, the cardboard quartet has a mixed design.

Validity Test of RIASEC Quartet to Improve Career Understanding according to Student Personality

The validity level of the RIASEC quartet is based on the material expert validation test and media expert validation conducted by expert lecturers to obtain constructive comments and suggestions to be the basis for revision media development. The material expert validation of the RIASEC quartet includes aspects of content, relevance aspects, and presentation aspects which aim to determine the suitability and clarity of the material presented in the RIASEC quartet. Table 4 shows the results of the validation by material experts as follows:

Table 4. Material Expert Validation Results

Indicator	Score	Percentage	Validity Level	Result
Suitability of material with SKKPD	4	100%	Very Valid	No Revision
The suitability of the material to the topic	4	100%	Very Valid	No Revision
The suitability of the material to the service objectives	4	100%	Very Valid	No Revision
The images in the media are in accordance with the material to be conveyed	3	75%	Valid	Revision
Relevant to the material	4	100%	Very Valid	No Revision
Suitability to the current conditions	4	100%	Very Valid	No Revision
Suitability of the material to the needs	4	100%	Very Valid	No Revision
There is a usage guide	3	75%	Valid	Revision
The type of font used is clear and legible	4	100%	Very Valid	No Revision
Presentation of images on the media is presented coherently	4	100%	Very Valid	No Revision
Media presentation can help in conveying information to students	3	75%	Valid	Revision
Does not create a sense of boredom.	3	75%	Valid	Revision
Total Number of Scores			44	
Total Percentage			91,67%.	
Criteria			Very Valid	

The data above shows that the RIASEC quartet is very feasible for field trials to be used as a media for student career guidance services in increasing career understanding according to student personality. The results of the material expert validation showed a percentage of 91.67%. Based on this, it can be concluded that the RIASEC quartet to improve career understanding according to personality has met the validation requirements and is declared very feasible from the content aspect, relevance aspect, and presentation aspect. The validator has stated that the RIASEC quartet is suitable for field trials. Table 5 shows the results of the validation by media experts as follows.

The data above shows that the RIASEC quartet is very feasible for field trials to be used as a media for student career guidance services in increasing career understanding according to student personality. The results of media expert validation showed a percentage of 97.92%. Based on the assessment of media experts, the RIASEC quartet developed is classified in the high category. This shows that the media design contained in the RIASEC quartet is suitable for use as a development media to increase career understanding according to personality with a combination of interesting text and images that make the service feel different and can make students interested. This is in line with the research of Anggraini et al. (2025) that the design of interactive and attractively made quartet cards can make guidance fun.

Table 5. Media Expert Validation Results

Indicator	Score	Percentage	Validity Level	Result
The attractiveness of the quartet card	4	100%	Very Valid	No Revision
Color selection of cards and websites	4	100%	Very Valid	No Revision
Clarity of the quartet font	4	100%	Very Valid	No Revision
Proper arrangement of material on the card	4	100%	Very Valid	No Revision
Ease of understanding the content of the material on the quartet card	4	100%	Very Valid	No Revision
Provides learning experiences for students	4	100%	Very Valid	No Revision
The accuracy of the use of sentences in the media	4	100%	Very Valid	No Revision
The use of language that is easy to understand	4	100%	Very Valid	No Revision
Ease of accessing the media	3	75%	Valid	Revision
Selection of images according to the material	4	100%	Very Valid	No Revision
Suitability of media functions with BK services	4	100%	Very Valid	No Revision
Image and content suitability	4	100%	Very Valid	No Revision
Total Number of Scores			47	
Total Percentage			97,92%.	
Criteria			Very valid	

RIASEC Quartet Practicality Test Results to Improve Career Understanding according to Student Personality

The level of practicality of RIASEC quartet media was carried out based on the practitioner expert validation test and student small group trials to obtain constructive comments and suggestions in media development. The RIASEC quartet media practicality test includes usability, feasibility, and accuracy using the formula from Rajab et al. (2023) :

$$P = \frac{\Sigma X}{SMI} \times 100\ \%$$

Source: Rajab et al. (2023)

Description:

P = Percentage

ΣX = Total Score

SMI = Ideal Maximum Score

Table 6. Media Practicality Level from Counseling Teacher

Aspect	Max Score	Score	Percentage
Utility	20	18	90%
Feasibility	28	25	89,29%

Accuracy	20	19	95%
Total		62	
Percentage		91,18%	
Criteria		Very Practical	

The following are the results of the small group trial conducted with 8 MAN Kepulauan Selayar students on January 6, 2026. Based on the results of the practitioner test which has been assessed by expert counseling teacher practitioners based on three aspects, namely utility, feasibility, and accuracy, the total percentage is 91.18% so that the RIASEC quartet media is included in the very practical criteria. At this small group trial stage, researchers involved 8 students who were randomly selected in class XI MAN Kepulauan Selayar. Based on the results of the small group trial, the RIASEC quartet media on students obtained a total percentage of 86.20% so that the RIASEC quartet media was included in the very practical criteria.

The practicality test conducted through expert practitioner assessment and small group testing, obtained a final result of 89% so that it can be concluded that the RIASEC quartet to improve career understanding according to student personality is practical to use with the criteria "Very Practical".

Table 7. Media Practicality Level from Small Group Trial Stage

Indicator	**Score**				**Percentage**
	1	**2**	**3**	**4**	
The RIASEC quartet is easy to use	0	0	0	8	100%
This RIASEC quartet can be used in career guidance and counseling services	0	0	4	4	87,5%
This RIASEC quartet is well designed and neat	0	0	3	5	90,62%
This RIASEC quartet has attractive colors that make the game more fun	0	0	3	5	90,62%
The appearance of the RIASEC quartet is attractive	0	0	5	3	84,37%
The images, elements, and graphics contained in the RIASEC quartet are appropriate so that it looks attractive	0	0	4	4	87,5%
The characteristics of the profession in the quartet are appropriate for the profession	0	0	4	4	87,5%
The language used in the RIASEC quartet and google site is easy to understand and clear	0	2	3	3	78,12%
The concept of the quartet game in guidance and counseling makes it easy to understand careers according to personality	0	1	5	2	75%
This RIASEC quartet can be used forever	0	0	6	2	81,25%
The information in the QR code and the RIASEC quartet google site page is accessed properly	0	0	5	3	84,37%
The RIASEC quartet can help to improve career understanding according to your personality as a high school student at the same level	0	0	4	4	87,5%
Total Number of Scores					331
Total Percentage					86,20%
Criteria					**Very Practical**

Discussions

The needs analysis shows that students need a tool in the form of media to improve career understanding according to personality. This is because one of the factors for the low understanding of students' careers at MAN Kepulauan Selayar is not due to the absence of material, but because of the passive delivery method. This statement is supported by research by Saman et al. (2021) that the use of media as a means of increasing students' career understanding can optimize the provision of guidance services in schools that still pay attention to the needs of students. The application of media in the guidance process will also provide stimulation so that students are enthusiastic about participating in the services provided (Ghufron et al., 2022). Interesting media and creative use will increase the possibility of students to be enthusiastic about the guidance and counseling services provided (Pahroji et al., 2022).

The media needed by students is media with the concept of games. Media with the concept of games will minimize the boredom that students have during service delivery. Career guidance services that use lectures will only cause boredom for students and are sometimes ineffective because they make students uninterested and lazy (Ghufron et al., 2022). Quartets have been widely developed before in guidance and counseling services. Research from Qarimah et al. (2025) showed that quartet media can facilitate professional exploration, strengthen cooperation, decision making, and build participants' confidence significantly and increase enthusiasm for participants. Putro & Indiati (2023) found that the use of life skills-based career information services significantly improved participants' career understanding, self-confidence, and future planning.

The material contained in the quartet includes professions equipped with the characteristics of these professions according to the type or type of personality that suits the needs of students. The visualization of the RIASEC quartet is also an important part of the media design process. This is based on the fact that the visual aspects of a medium will affect the objectives to be achieved from the media (Qarimah et al., 2025). The use of printed media or having a physical form is superior because it will help stimulate directly (Parinduri et al., 2024). Thus, the selection of game concepts with printed media is expected so that students are able to interact directly with the media. The use of easy-to-understand language in the media is an important aspect in supporting the success of the learning process. This is because learning media functions as a communication tool between the material and students.

Based on the analysis of all stages of needs that have been carried out, it is concluded that there is a real urgency to develop RIASEC quartet media to improve career understanding according to student personality. The data that has been collected shows that there are still many students who do not understand their personality well and have not been able to determine their career choices maturely. Teachers responded that the lack of media and the obstacles in media development were considered unable to meet students' career needs. Therefore, functional media such as RIASEC quartets are needed in schools. The media needs to feature clear illustrations of professions according to the card types representing Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. The design should be simple and use language that is easily understood by students. In addition, it needs to be equipped with a usage guide for counseling teachers. From some of these specifications, it is expected to be able to make the quartet a medium that is not only informative but also increases social interaction, fosters enthusiasm, and discussion between students. The content of this quartet card also considers the characteristics of each RIASEC type to help students more easily identify their personal preferences. This aligns with the view that individuals seek environments that allow them to practice their skills and abilities, as well as express their values and attitudes (Kopsidas, 2024).

Based on the results of the needs analysis, the design of the RIASEC quartet prototype to improve career understanding according to students' personalities was carried out by making a storyboard, which is most of the media content is graphic design, icons, and animated images. This RIASEC quartet is a career guidance service media for students at school. The design of the RIASEC quartet is done by studying the characteristics of the quartet cards and the rules of the game first. After studying the characteristics and rules of the card game, then the search for professions that match each personality type is included with the characteristics of each profession as the substance or content of the material in this media. The main strength of this prototype lies in the integration of QR Code technology. A fundamental problem with traditional quartet cards is the limited physical space to explain complex professional profiles. With QR Codes, these barriers can be overcome; physical cards serve as triggers for social interaction in the classroom, while QR Codes via Google Sites provide the depth of digital information. In line with DDR goal of creating context-based solutions, the integration of QR Codes into these quartet cards is specifically designed to address the limited career information resources at MAN Kepulauan Selayar (Richey & Klein, 2007). This creates a hybrid learning ecosystem that aligns with the digital literacy characteristics of today's high school students.

The theory used in the development of this career media is Holland's career theory. The theory is used because it states that a person who knows a career that suits his personal preference for pleasure (Holland, 1959). If an individual develops a dominant focus, they are more likely to get satisfaction in the right professional environment. But if he cannot choose, the opportunity to achieve satisfaction is lost (Asri et al., 2021). The satisfaction referred to here is the accuracy of the chosen career choice with himself. The RIASEC quartet will have all six of Holland's personality types which are often abbreviated as RIASEC, namely Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (Kopsidas, 2024). Furthermore, the validity of the RIASEC quartet was conducted. The validity level of the RIASEC quartet was carried out based on the material expert validation test and media expert validation conducted by expert lecturers to obtain constructive comments and suggestions to become the basis for revising media development. Material-related validity received a percentage of 91.67%. This proves that the career information content in this media

is scientifically accurate and highly relevant to the level of understanding of high school students. This score also confirms that Holland's personality theory (RIASEC) has been successfully simplified into concrete professional profiles without compromising its theoretical significance, making it suitable for use as a reference for students' career choices. Based on this, it can be concluded that the RIASEC quartet to improve career understanding according to personality has met the validation requirements and is declared very feasible from the content aspect, relevance aspect, and presentation aspect. The validator has stated that the RIASEC quartet is suitable for field trials.

Although the final validity score showed a very high number, there were some important improvements made based on constructive suggestions from the experts during the development process. Material validators suggested improvements in the content aspect, where almost all characteristics of the professions listed were changed according to the age level of high school, in addition some professions were also changed because they were not included in the qualifications of a profession that must have a clear educational background to develop it and have a clear professional organization. After making improvements and getting high material validity results, this shows a positive assessment of the material contained in the RIASEC quartet. The RIASEC quartet is said to be very valid and ready for field trials in terms of material. Based on the assessment of the material expert, the RIASEC quartet developed was classified in the high category. This shows that the content contained in the RIASEC quartet has met scientific standards and is valid for use as a medium for understanding careers according to personality. The content of the material contained is a very important thing and needs to be considered in media development (Miftah & Rokhman, 2022). The more complete the content of the material contained in the media, the more students have additional understanding and knowledge to improve career understanding according to personality which will be useful in making student career decisions (Tas'adi & Sisrazeni, 2017). The completeness of the content in the developed RIASEC quartet is one of the factors that make the RIASEC quartet have a high validity value. Thus, the use of RIASEC quartet media is considered easy to use based on the high validity value.

The media validity of the RIASEC quartet showed a result of 97.92%. This proves that the innovative integration of QR Code technology and engaging visual design. These figures demonstrate that combining interactive physical cards with digital access through Google Sites can create a modern learning experience and overcome the space limitations of traditional print media. Based on this, it can be concluded that the RIASEC quartet to improve career understanding according to personality has met the validation requirements and is declared very feasible from the graphic aspect, presentation aspect, and visualization aspect. The validator has stated that the RIASEC quartet is suitable for field trials. The validity of the media in the development will be well analyzed for quality so that the design developed is suitable for use (Wiantisa et al., 2022). Thus, in addition to conducting material validity, the validity of the media design must also be considered to assess the suitability of the design to the material properly. The media assessment aspects consist of aspects of content feasibility, language, presentation, and graphics. The media validator gave a high score very valid criteria and showed a positive assessment of the response and positive assessment of the overall design of the RIASEC quartet, starting from the card, usage brochure, usage guide book, page on google site, and quartet cardboard.

However, the score was obtained after making major revisions after the media validator provided input and revisions related to color selection, size, font type, size of elements, eliminating some less important elements in the quartet. Color corrections were made because the previous colors were too bright and distracted students' focus when reading the profession descriptions. After these improvements were made, the validator gave a high validity score with positive results. This demonstrates that an iterative revision process is crucial to ensuring that the media is not only aesthetically pleasing but also functional and comfortable for students to use in the field. In addition, media experts also checked each QR code and found errors in several codes that could not be accessed so that they needed immediate repairs. Utilizing QR Codes on printed materials like course books might improve the appealing and elucidative parts of pieces of literature (Sondhi & Kumar, 2022). After that, the media validator gave a high validity score with positive results. Based on the assessment of media experts, the RIASEC quartets developed were classified in the high category. This shows that the media design contained in the RIASEC quartet is suitable for use as a development media to improve career understanding according to personality with a combination of interesting text and images that make the service feel different and can make students interested. This is in line with the research of Anggraini et al. (2025) that the design of interactive and attractively made quartet cards can make guidance fun.

Furthermore, the results of the RIASEC quartet media from practicality level from counseling teacher small group trial on students obtained a total percentage of 89% so that the RIASEC quartet media was included in the very practical criteria. The factor that makes RIASEC quartets that have a high feasibility value is because these quartets use language that is easy to understand; and an attractive appearance (Azhar, 2017;

Anggraini et al., 2025). In addition, the high feasibility value is due to the clarity of the material content and the image media. A media is said to be feasible if it has 3 components, namely the feasibility of content and objectives, the linguistic feasibility component, and the presentation feasibility component (Alamsyah, Umar, & Saman, 2020). The small group test was conducted in the guidance and counseling room of MAN Kepulauan Selayar.

RIASEC quartet media is considered feasible to use as career guidance media because it meets the three main criteria for media feasibility, namely content feasibility, language, and presentation/appearance. This is in accordance with the findings of Kurniawati & Ahmad (2020) who said that the media is declared feasible if it meets three components, namely the feasibility of content and objectives, language, and presentation. The results of research from Qarimah et al. (2025) that the quartet is practical to use in the career guidance process. Based on the practicality test conducted through expert practitioner assessment and small group testing, the final result was 89% so that it can be concluded that the RIASEC quartet to improve career understanding according to student personality is practical to use with the criteria "Very Practical". The high level of practicality of this media proves that the game-based learning approach combined with Holland's personality theory (RIASEC) is very effective for high school students in improving career understanding according to personality.

From a guidance and counseling perspective, the card game facilitates emotional engagement and social interaction not found in conventional lecture methods. Based on Sushkova et al. (2019) game as a very effective for perception form of career guidance to gain the skills of decision making. It allows students to explore complex personality concepts in a relaxed yet purposeful manner. Furthermore, this card is highly practical because the QR code overcomes the problem of limited information on the card. This is also in line with research by Sondhi & Kumar (2022), which found that QR codes can contain more information than standard ID cards, making learning easier for students. Also, integration of QR codes into printed educational materials improves the relationship between the activity in with additional online activity (Rakha, 2025). The successful implementation at MAN Kepulauan Selayar shows that this media not only serves as a guidance tool, but also as a self-directed career literacy tool that empowers students to make more confident and data-driven future decisions.

Conclusions

This research successfully addressed the challenge of low understanding of personality-based careers at MAN Kepulauan Selayar through the development of RIASEC Quartet Cards, a media tool integrated with QR Code technology. Key findings indicate that combining the physical interaction of a card game with the depth of digital information through Google Sites bridges the gap between Holland's abstract personality theory and concrete career exploration. Technically, this product achieved a very high level of validity and practicality, demonstrating that modern career guidance media must be interactive and dynamic to engage the interest of digital-generation students. A significant contribution of this research is its demonstration that QR Code technology can overcome the space limitations of conventional print media, enabling the presentation of broader professional profiles without diminishing the essence of social interaction in the classroom. Thus, this research provides a foundation for guidance and counseling teachers to shift from passive lectures to more exploratory and independent guidance strategies.

Based on the limitations of this study, it is recommended that future researchers test the effectiveness of this media in improving students' career maturity scores quantitatively through experimental research. In addition, the development of digital content on QR Code can be expanded to include a more contemporary variety of professions as well as media involvement such as diverse videos on Google Sites and testing on a wider range of subjects with different school cultural backgrounds to test the generalizability of this media

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