



Virtual Reality Based Project-Based Learning Model in Online Learning

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Abstract

This study aims to implement virtual reality (VR) in online learning for learning Chinese. The learning model in this research is VR-based project-based learning. The development of VR in online learning uses the ADDIE method because this research develops a medium and to use it, students have a learning model as project-based learning. The target of this research is the effectiveness of using VR in online learning to increase students' knowledge of Mandarin. In this study, VR was tested on 20 students to obtain student cognitive data. The results of this study, VR has an effectiveness of about 78% compared to without using VR.

Keywords: Chinese, Project based learning, Virtual reality

Introduction

Education enables us expand our capacity and may humanize humans. Life these days needs the life of first-rate human sources in order that every is ready with a purpose to preserve up with the tempo of improvement of technology and era and be capable of deal with improvement this is continuously converting in keeping with the needs of the times. Education performs an essential position in constructing aggressive human sources and capable of compete with different countries. Therefore, to welcome MEA, schooling need to be capable of put together human sources (VIRTUAL REALITY) who're skilled, sensitive, and important in dealing with demanding situations and adjustments as a way to arise withinside the international of schooling withinside the future. The demanding situations of MEA within side the international of schooling as a way to be confronted encompass the proliferation of overseas instructional institutions, more and more more pro-marketplace instructional requirements and orientations, and the labour marketplace this is flooded with overseas workers. However, to strengthen withinside the cutting-edge interna-

tional like now, this isn't simplest schooling this is needed, however additionally an growth in human sources in gaining knowledge of era. The affect of technology and era has to date had a primary effect in supporting human activities. Therefore, it's far vital to expand an academic version which can observe the improvement of this era.

Chinese is a established technological know-how that underlies the improvement of contemporary-day era, it has an critical function in numerous disciplines, and advances human thinking. To grasp and create era withinside the future, mastery of Chinese is wanted to equip college students with the capacity to suppose logically, analytically, systematically, critically, and creatively, in addition to the capacity to paintings together. These talents are wanted so that scholars will have the capacity to obtain, manage, and make use of statistics to live on in situations which might be constantly changing, uncertain, and competitive. The loss of hobby in self-observe through college students at domestic, the shortage of hobby of college students in analyzing textbooks, they favor to fill their spare time at domestic to look at television, play

smartphones or gadgets, or simply play with buddies in preference to analyzing Chinese textbooks. The improvement of the arena of era, in particular gadgets, that's presently very fast, unavoidably makes absolutely each person inseparable from gadgets, inclusive of adults and kids. Besides those problems, college students at low-degree universities additionally have problems in mastering Chinese face to face, consequently powerful communicate media is wanted to bring the expertise of Chinese. At the essential college degree, whilst kids are on the degree of concrete operational thinking, the concept of powerful communicate to recognize Chinese ideas is to apply educational media (Harri, 2015).

Media withinside the place of tutorial era is a gaining knowledge of useful resource withinside the shape of a aggregate of substances and equipment. Materials right here are objects which are normally referred to as software program or software program wherein messages are contained to be conveyed the usage of equipment [1-3]. The phrase media comes from the phrase medium this means that an middleman or messenger from the sender to the recipient of the message [2-4]. The improvement of gaining knowledge of media need to additionally encompass components of individual training so that scholars have sturdy individual and morals, that is in line with pointing out gaining knowledge of equipment that help individual training (Widyatmoko, 2021). The use of gaining knowledge of media withinside the global of training pursuits to create amusing gaining knowledge of. The improvement of gaining knowledge of media is an innovation to present gaining knowledge of media, the improvement of gaining knowledge of media lets in the introduction of gaining knowledge of multimedia this is extra interactive and powerful in gaining knowledge of, certainly considered one among that's the improvement of Virtual Reality media (Mee, 2018).

The purpose of this studies is to put into effect project-primarily based totally studying. Instructional Development become selected due to its sturdy dating with real-lifestyles and may cope with the principle issues in project-primarily based totally studying (Pankhurst, 2012). It become located that project-primarily based totally studying become the proper choice. In addition, e-portfolio evaluation has confirmed to be beneficial in project-primarily based totally studying (Sun, 2016). The imple-

mentation of the Project Based Learning version at the venture of creating Chinese Virtual Reality is completed with education primarily based totally in this wishes evaluation studies use this layout for every section (Bukhori, 2021).

Material and Method

This studies is a sort of qualitative studies with wishes evaluation orientated to product improvement. The resulted product is withinside the shape of Chinese language getting to know media that incorporates factors of amusement and thematic getting to know on low-degree University Chinese material. The evaluation version used on this wishes evaluation makes use of the primary stage (evaluation) withinside the ADDIE improvement version, that is a improvement version inclusive of 5 degrees which encompass evaluation (evaluation), layout (layout), improvement (improvement), implementation (implementation), and evaluation (evaluation). The ADDIE improvement version changed into advanced via way of means of Dick and Carry in 1996 to layout getting to know systems (Wahyono, 2020).

Results and Discussion

Performance Gap Validation

This analysis was carried out using a questionnaire instrument for learning media needs with teachers and elementary school students as respondents. In the analysis with teacher respondents, there were 20 student respondents at the Malang State University with a summary of the results of the questionnaire which can be seen in table 1. Identifying the characteristics of students

Analysis of the character of students is also carried out using a multiple-choice questionnaire. The respondents consisted of 30 low-grade university students in the Malang area, there were three groups of variables used, namely consisting of students' interest in learning Chinese, students' knowledge of Chinese, and preferred forms of learning media.

On the results of students' interest in learning Chinese, 73% of students think Chinese is fun, 63% of students have studied alone at home, it's just that the intensity is rarely done. On the results of knowledge of Chinese language, 63% learn certain material in Chinese is fun. As for the form of learning media that students like, it can be seen in the following picture: Figure 1.

The overall performance hole evaluation

Table 1. Parameter of Quizzer in VR Media.

No	Instrument	Result
1	The role and benefits of using learning media	1) Facilitate understanding of the material presented 2) Facilitate the teaching and learning process 3) Make Chinese more interesting, 4) interactive, creative and fun 5) Learning becomes more active, effective and efficient
2	Forms of learning media that can motivate students	Audio visual, computer, internet, concrete media, learning videos, animation, electronic media, games and integrated media
3	Utilization of technology to support the learning process	Very useful and helpful like watching math animation movies, making learning more active by adjusting educational goals
4	Application of Chinese learning media in VR	1) Can make Chinese more fun 2) Make children more focused on the material discussed 3) Not monotonous, interesting and motivating students in learning 4) Generating students' curiosity in learning 5) Stimulate students to react both physically and emotionally if packaged clearly and completely 6) The learning process becomes more interactive, easy and fun 7) Accelerate students to think creatively, think towards concepts and daily applications

suggests that the hobby and want of instructors for studying media are pretty high, mainly thinking about the contemporary wishes and technological advances. From the outcomes of the overall performance hole questionnaire, it could be visible that the studying media which can be of hobby are audio-visible studying media which can be interesting, interactive, and fun, however this media is not often acquired withinside the community. Electronic media have a tendency to offer amusement suggests and movies which have a tendency now no longer to educate, it's far important to apply movie media as studying media for college students, the usage of Chinese Virtual Reality media also, if packaged properly, will stimulate college students emotionally to revel in extra Chinese dialogue withinside the packaging of life. daily. This is supported via way of means of the VR characteristic that offers us an concept that VR is extra than simply making cartoons, however extra than that VR may be used to deliver information, messages, ideas, or even propaganda for numerous functions and interests. A easy instance is the usage of VR as a coaching medium (Wahyono, 2019).

At the level of figuring out the person of college students from the data, it is able to be visible that actually, college students on the University have a great hobby in Chinese lessons, it is simply that this summary Chinese lan-

guage desires to be added the usage of suitable gaining knowledge of techniques and media in order that the shipping of Chinese fabric is needed to be with the aid of using tiers of scholar gaining knowledge of development. At the concrete operational level, college students could make conclusions from some thing in actual conditions or with the aid of using the usage of concrete items and may keep in mind factors of actual conditions together. The outcomes of scholar hobby withinside the shape of media that scholars select have a tendency to love gaining knowledge of media withinside the shape of VR and multimedia.

At the level of formulating academic targets, after reading the Learning Plan, the guidance of those academic targets makes use of the ABCD (Audience, Behaviour, Condition, and Degree) rules. It defines as follows: Audience is a pupil who will learn, conduct is a particular conduct a good way to be raised with the aid of using college students after finishing the gaining knowledge of system withinside the lesson, situations are situations or barriers imposed on college students or equipment utilized by college students while being tested (now no longer on the time of gaining knowledge of), and diploma is the extent of fulfillment of college students in attaining those behaviors. The formula of educational targets additionally refers back to the identity of pupil characters including interests, character, and



Figure 1. Mandarin VR application view

Figure 2. Character of Chinese Language



Figure 3. Implementation of VR in Chinese language

abilities of college students in addition to the quantity to which the abilities and capabilities are possessed with the aid of using college students.

Difficulties which are determined at this level is to decide the capacity of prerequisite what must be owned with the aid of using the scholar earlier than the venture-primarily based totally getting to know due to the fact that col-

lege students of training Languages Chinese software examine did now no longer want unique examine strategies - strategies of creating Virtual Reality like photographic strategies, lights engineering, sound engineering and different matters that guide the venture is completed.

Meanwhile, college students also are withinside the method of creating Chinese VR getting to know media assigned to create academic goals. Instructional goals may be formulated the usage of a overall performance GAP evaluation observed with the aid of using a primary skills evaluation. The evaluation of primary competence is actualized with the aid of using the usage of the topic in Virtual Reality that's adjusted to the topic withinside the training curriculum, whilst the evaluation of primary competence is achieved with the aid of using reading and creating a competency map.

Executed on mastering to college students are to investigate the primary capabilities Chinese VIRTUAL REALITY in semester four of listening course. The training of those capabilities become made to formulate academic purposes, particularly Learners semester college students four with VIRTUAL REALITY capable of apprehend and clear up issues Chinese dialogue of topics listened efficiently 80% In making the plot, college students are assigned to make a plot in line with the topic of the curriculum thematic cloth, at the same time as the Chinese language mastering go with the drift is adjusted to the competency map assigned to the scholar as proven in Figure 2.

To keep the go with the drift and mastering materials, a storyboard layout is made as an mission. to college students with content material components, particularly scheme, visuals, duration, characters, audio/dialogue, property, and region settings. The mission degree with the aid of using creating a storyboard may be very essential to construct a framework and tiers of coaching Chinese and is a starting stage in making Virtual Reality so that after the producing technique does now no longer exit of the go with the drift and coaching of the competency map this is built.

Conclusion

From the outcomes of the analysis, it become observed that the Chinese language movie making challenge for the college become very possible to be made as a challenge undertaking at the Project Based Learning assigned to students. To assist the implementation

of PBL, it's far essential to put together and pick out the wishes as a way to be used together with studio tables, tripods, software, and consumables, in addition to the layout of the Project Based Learning activities. The choice of PBL through making Virtual Reality in Chinese has big advantages for college students so that scholars aren't most effective ready to emerge as coaching personnel however also are ready so that you can see financial possibilities in different fields together with the innovative industry.

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