

基于技工院校学生微画像的分层教学模型思考

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摘要:分层教学可有效解决技工院校学生基础参差不齐带来的教学难题。但分层教学存在分层的任意性与主观性等缺点,为了提高分层的准确性,本文借鉴用户画像提出学生微画像的概念,探究构建学生微画像,建立分层教学模型进行分层。

关键词:用户画像;分层教学;技工院校

技工院校学生基础参差不齐给教学带来难度。技工院校的教学模式仍是一刀切,导致基础好的学生吃不饱、基础差的学生吃不了^[1]。有学者提出的分层教学^[2]有一定成效。在分层教学中,教师按经验划层次有较强的主观性,准确分层是科学施行分层教学的重要问题。用户画像为解决该问题提供了思路。用户画像通过画像发现用户属性特征,基于标签体系为用户提供个性化服务^[3]。用户画像已被普遍应用于学生管理,包括学生挂科预警与学生思政教育等^[4]。

用户画像技术需要多维度数据支撑,教师能获得部分数据,可依据较少维度数据构建学生微画像进行分层教学。本文提出基于微画像的分层教学模型思路,为技工院校教学存在的学生基础相差大与分层的随意性等问题解决提供参考。

1 学生微画像内涵与建立流程

用户画像在教育中应用广泛,浙江中医药大学用学生画像提高思政教育的针对性^[5]。江苏理工学院基于用户画像对图书馆的个性化服务做了研究^[6]。借鉴用户画像,利用教学数据建立学生微画像构建分层模型,将学生划分为不同层次,帮助教师了解学生的学习情况。学生微画像是教师通过收集分析教学过程数据,概括学生在学习中的全貌。与以往学生画像不同,学生微画像的数据来源是教师教学与学生基础数据。

用户画像构建的基础是数据标签,合理的标签可概括学生全方位特征。学生微画像标签采用基础标签与扩展标签。基础标签描述学生基本情况;扩展标签描述学生学习的相关特征,标签如表1所示。

表1 微画像数据标签

一级标签	二级标签
基础特征	性别
	家庭情况
	地域
学习特征	出勤率
	课堂表现
	学习成绩
	随堂测试

基于数据标签,借鉴用户画像,通过以下步骤构建学生微画像。

1.1 数据采集 学生表现主要受教学过程与学生自身影响,学生微画像数据来源是学生基础数据与教学过程。

1.2 数据清洗 采集数据时存在部分数据缺失情况,如学生的家庭情况缺失,需用程序语言对数据进行标准化清洗。

1.3 数据分析 针对收集的数据进行分析,建立用户画像。利用算法从数据中概括学生微画像的要素,可从学生基础特征和学习特征两方面建立基于学生本体的微画像。

1.4 微画像可视化 建立微画像后,直观呈现学生微画像效果,教师能直观利用微画像对学生进行分层。

2 学生微画像应用于分层教学思路

以学生和教学过程为中心,分析与分层相关的维度,形成符合实际需要的画像。数据需教师实际统计,将采集的数据写入本地文件建立源数据集。从学生处获得学生信息作为基本特征数据;通过前期教学教师已收集教学数据,包括出勤率、课堂表现、月考与期末成绩、其他科目成绩。对源数据中的出勤率、课堂表现加工,概括学生的学习态度;对源数据中月考成绩与期末成绩设置权重,概括学习成绩状况。这些特征的具体描述如表2所示。

表2 学生微画像特征描述

特征	描述
基本信息	姓名、性别、生源地、家庭条件
学习成绩状况	优秀、良、一般
学习态度	认真、一般、懒散
其他科目学习成绩状况	优秀、良、一般

根据特征描述与数据分析,可得到该生微画像,示例如下图1所示。

基本信息:张明,男,杭州,非贫困生
学习成绩状况:优秀
学习态度:认真
其他科目学习成绩状况:优秀

图1 学生张明的微画像

对每个学生数据分析形成微画像库,将学生进行准确的分层。上述流程构建了学生微画像,呈现学生的基本信息和学习状态。接下来,需构建分层教学模型实现准确分层。学生各维度信息都是描述性的,使用 logistic 回归模型,这是一种简单且适用于分类变量回归分析模型。logistic 回归函数为:

$$y = \frac{1}{1 + e^{-w \cdot x}}$$

其中是数组,存储学生画像信息数据。设立变量 score1,表示学生学习成绩状况;设立变量 score2 表示其他科目学习成绩状况;设立变量 atud 表示学生学习态度。对数组进行输入处理,根据不同的取值,最终能输出所需分层结果。

通过分层模型的计算,将学生分为 A、B、C 三个层级;其中,A 层级学生学习能力较强,能主动探究并解决问题;B 层级学生学习能力一般,能理解基本教学内容,能解决较简单的问题;C 层级学生学习能力较差,对于知识的把握需花较多时间。通过以建立学生微画像并利用学生画像数据进行分层教学建模,可将学生准确分层,从而提高分层教学的效率。

3 结语

画像技术应用于教育教学尤其是技工院校的教育教学中还面临诸多挑战。本文思考将用户画像技术应用于技工院校教育教学,借助学生画像提高分层(下转第 115 页)

Discussion on College English Phonetics Teaching

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Abstract: Pronunciation is the basic form of language. Only by learning pronunciation well can we learn the language better. If the pronunciation ability is insufficient, it will have a great impact on the students' language ability. In order to effectively improve the effect and quality of college English phonetics teaching, this issue is discussed in detail in the following part based on practice for reference.

Key words: College English; Phonetic teaching

In college English teaching, phonetic teaching occupies a very important position and is the first step of English language learning. English is mainly composed of pinyin letters, and English word formation is mainly realized through syllables, so pronunciation plays a more important role. Therefore, it is necessary to pay sufficient attention to phonetic teaching, in the whole English teaching should pay attention to phonetic teaching.

1 Strengthen the teaching of pronunciation knowledge and monophonic

teaching Pronunciation learning is mainly through listening, imitation, practice to complete, which is inseparable from the use and change of the pronunciation organs, teaching students about the name of the pronunciation part and the change of the location of the pronunciation help students to imitate pronunciation, improve the accuracy, avoid blind passive imitation. At the same time, monophonic teaching is the basis of listening and reading words and sentences, but winning learning is the prerequisite of phonetic teaching. Therefore, in the teaching process, we should strengthen the impart of pronunciation knowledge and the practice of monophonic reading. For example, when teaching vowels, we should strengthen the teaching of pronunciation knowledge and the practice of single phonetic reading. For example, when teaching vowels, students should first emphasize the position of the tongue, so that they can consciously feel the difference between the front, middle and back of the sound. Twenty vowels are made from the space in the mouth, and a slight change in the tongue position will turn into another vowel. And can use the oral activity, in order to enhance the visual effect. The teacher can point to the picture or model and pronounce at the same time. Students can also use teaching AIDS to help them

pronounce. When teaching consonants, we should emphasize the vibration of the vocal cords, which is the key to distinguish consonants from voiced consonants. The vagueness of consonants has a great influence on semantics. In addition, consonants can not be continued except for fricatives and nasals. It is very difficult for Chinese students to feel consonant clusters, because this is only a phenomenon in words, so the solution can only be through the pronunciation practice of words. Of course, teaching pronunciation depends on the situation. If a student already has a good grasp of a certain factor, there is no need to gild the lily.

2 Incorporate phonetic symbols to strengthen the training of word reading

English as a pinyin characters, phonetic symbols are the basic means and prerequisite of learning English. Phonetic symbols occupy the primary position in phonetic teaching. The teaching of phonetic symbols should not be carried out once and for all, only at the beginning of English learning. Instead, the knowledge of phonetic symbols should be integrated into all stages of English learning and closely combined with specific words and letters that form words. This is conducive to students' more accurate grasp of the pronunciation of phonetic symbols and their recognition of words.

3 Combine sentence recitation and pay attention to language flow teaching

Stress teaching is an important content of phonetic teaching and an important aspect of the cultivation of sentence listening and speaking ability in language flow teaching. Stress teaching includes word stress and sentence stress teaching. Both are important, and the teaching of stress is not as widely valued by teachers as the basic phoneme. In fact, stress, like factors, also affects semantic meaning. So to repeat the practice, so that students master. When the concept of word stress is firmly in the students' mind, it is necessary to tell the students at the appropriate time that stress can be moved in the flow of speech.

Reference

[1] Guo, Yengli. A Study on College English Teaching [M]., 2017, (09).

(上接第 114 页)教学中分层的准确性。但是,这种探索也存在数据不全面、数据挖掘深度不够等问题,这是之后需要改进的方向。

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