Hongxi (Jeremy) Huang

CSE 584 Homwork #1

Using Flipped Classroom: MOOCs and Active Learning Approach to Promoting Undergraduate Students Learning Achievement

1. The paper tries to solve the challenge of enhancing learning achievement for undergraduate students through a combination of flipped classroom methodologies and active learning strategies, which can motivate students more effectively in their learning process and provide a more satisfactory learning environment.

2. The paper proposes to mix flipped classroom techniques with active learning. In this way, students first get their hands on the course materials through MOOCs before coming to class. This lets them learn at their own speed outside the usual classroom setting. Then, in class, they dive deeper through interactive activities and problem-solving that encourage everyone to participate and think critically.

3. Novelties/contributions:

(1) The active learning approach enhances students' learning outcomes.

(2) MOOCs enhance student participation in the classroom.

(3) MOOCs enhance both the educational process and educational outcomes.

(4) MOOCs effectively enhance students' learning processes.

(5) MOOCs positively influence learners' perceptions of the educational system.

(6) Students can develop favorable attitudes towards the system, ultimately leading to its acceptance and integration into their learning.

4. As noted in the paper regarding potential drawbacks, first, the results may not be applicable to all students due to the relatively small sample size. Second, the learning channels are limited. Lastly, the scope of testing should be expanded beyond just the system analysis and design course to include additional courses.

Implementation Of Active Learning Using Card Game Model In Increasing Learning Motivation

1. This study aims to improve the motivation to learn Civics using an active learning method that helps motivate students in their less satisfying and boring learning environment.

2. The paper proposes an active learning model using a card game. This approach aims to make the learning process more engaging and interactive which can increase students' motivation. The method was implemented in three cycles of classroom action research, each improving the approach based on observations and feedback from the previous cycle.

3. Novelties/contributions:

   (1) Students' motivation in learning Civics can be enhanced through the active learning model.

   (2) The active learning model with this card game model promotes responsibility, cooperation, healthy competition, and engagement.

   (3) Civics learning can be optimized with the active learning model with this card game model as it inclusively involves all student activities.

4. The effectiveness of the proposed methods relies heavily on student involvement. This can cause problems if students are not willing or able to actively participate. Furthermore, for further improvement, applying different variations of the learning model could also potentially increase students' motivation across various levels.

Active Learning Based on Transfer Learning Techniques for Text Classification

1. There is a need for new algorithms that can process text more efficiently, learning faster with fewer resources, due to the ongoing requirement to develop models that maximize resource efficiency for learning tasks.

2. The paper proposes a novel approach by integrating active learning and transfer learning techniques to address the issue. This method focuses on selecting the most informative data points for training through active learning, while transfer learning helps leverage knowledge from related tasks that have already been learned. combining active and transfer learning, the algorithm achieves better performance with fewer labels compared to randomly selecting training points.

3. Novelties/contributions:

   (1) This research explores how combining active and transfer learning can enhance the efficiency of algorithms for classifying text data from small datasets.

   (2) Employing active transfer to select training points yields better results than both random selection and uncertainty sampling.

   (3) By integrating active and transfer learning within a specific domain, we achieve quicker learning and require fewer labels compared to random selection.

4. The paper also points out that active and transfer learning are mostly used on small datasets right now, and the results might not be the same with bigger ones. Even though this method works well for specific text classification tasks, it's also crucial to adapt this approach for use with multi-input models.