









make some solution to the typical problems which will be encountered in class. Therefore students can watch the operation video while doing practical class, attain half effort and double result.

Micro-lecture can let the students have enough time to accept, they can see clearly each step to come until the subject complete solution come out, they can see the micro-lecture over and over again until they grasp. Micro-lecture provides a new teaching method for the educational institutions and teachers who want to change the traditional teaching forms. In some cases, these micro-lectures are reusable resources, especially those that explain the basic concepts, they can be used by multiple courses and more than one teacher.

#### 4. RESULTS OF BLENDED LEARNING

Blended learning is more effective than purely face-to-face or purely online classes. Blended learning methods can also result in high levels of student achievement more effective than face-to-face learning. By using a combination of online learning and one-on-one face time, students can work on their own and support individual students who may need individualized attention. The results show that: 1) the flipped classroom allowed the instructor to cover more material; 2) students participating in the flipped classroom performed as well or better on comparable quiz and exam questions and on open-ended design problems; and 3) while students initially struggled with the new format, they adapted quickly and found the inverted classroom format to be satisfactory and effective. It can encourage students to become self-learners, students' participation was voluntary. Students were free to participate to the degree they deemed necessary in order to complete the required assignments and pass the course assessments.

#### 5. CONCLUSION AND FUTURE WORK

Practice shows that the blended learning system discussed in this article has a certain degree of success in the application. But the blended learning still belongs to a new thing. The issue is still worth to continue exploring about how to carry out teaching activities effective according to the characteristics of different subject. We believe that with the continuous deepening of exploration and the accumulation of experience, the blending learning based on micro-lecture is getting more and more perfect year by year and play a more significant role.

#### ACKNOWLEDGMENT

This work was supported by Education Reform Project Fund of College of Dongfang, Zhejiang University of Finance & Economics (No. 2014JK08).

#### REFERENCES

[1] Randall S. Davies, Douglas L. Dean and Nick Ball, "Flipping the classroom and instructional technology integration in a college-level information systems

spreadsheet course," *Educational Technology Research and Development*, vol. 61, no. 4, pp. 563-580, 2013.

[2] Carlos Delgado Kloos, Pedro J. Muñoz-Merino, Mario Muñoz-Organero, et al., "Experiences of Running MOOCs and SPOCs at UC3M," in *Proceedings of IEEE Global Engineering Education Conference*, pp. 884-891, 2014.

[3] Gregory S. Mason, Teodora Rutar Shuman and Kathleen E. Cook, "Comparing the effectiveness of an inverted classroom to a traditional classroom in an upper-division engineering course," *IEEE Transactions on Education*, vol. 56, no. 4: pp. 430-435, 2013.

[4] Lage, M., Platt, G. J. and Treglia M., "Inverting the classroom: a gateway to creating an inclusive learning environment," *Journal of Economics Education*, vol. 31, no. 1, pp. 30-43, 2000.

[5] Jon Baggaley, "Reflection MOOC Postscript," *Distance Education*, vol. 35, no. 1, pp. 126-132, 2014.

[6] Zhong Qi and Wu Zhi-Yong, "Research on 'micro-lecture' teaching mode of computer basic courses in college," *Modern Educational Technology*, vol. 24, no. 2, pp. 26-33, 2014.

[7] Xie Qi, Cui Meng-Tian and Zhou Xu-Chuan, "Design and implementation of experiment teaching micro-lecture for C++ programming," *Journal of Southwest University for Nationalities (Natural Science Edition)*, vol. 42, no. 3, pp. 311-317, 2016.

[8] Li Ying, "Research on the application of micro-lecture in the teaching of Fundamental of Programming," *China Computer and Communication*, vol. 3, pp. 252-253, 2016.

[9] Huang Ying, "Micro-lecture a new constructivist teaching means in the era of network," *Journal of Nanjing Institute of Industry Technology*, vol. 13, no. 3, pp. 47-49, 2013.

[10] Jian-yong Lou, Chen Jiang, Pei-rong Zheng and Zhen-pei Huang, "A Research of blended teaching based on the flipped classroom model applies to vocational education -- Experiment in the major of numerical control lathe," *Science Journal of Education*, vol. 4, no. 2, pp. 73-77, 2016.

[11] Michael Horn, Heather. *Blended Learning*, Nie FengHua, Xu Tieying, eds., Beijing: Mechanical Industry Publishing House, 2015.

[12] Dongqin Wu and Xin Chen, "The study of mobile teaching system based on micro-lecture: JAVA flipped classroom for example," *International Journal of Multimedia and Ubiquitous Engineering*, vol. 10, no. 1, pp. 191-198, 2015.

[13] Yin Hong-li, "The design and practice of "flipped classroom" model based on task-driven and micro-lecture," in *Proceedings of International Conference on Education, Management and Computing Technology (ICEMCT 2015)*, pp. 452-1456, 2015.

[14] Xie Li, Xie Lei and Deng Xiaohua, "Micro-lesson design and production of adult mobile-learning-take "Word2010 Mail Merge Application" Micro Class for example," *Science Journal*, vol. 7, pp. 37-39, 2015.