

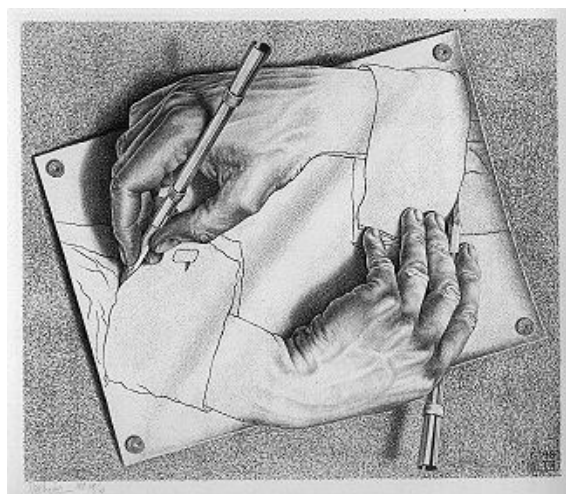


Online Learning

在线学习

致谢：感谢参与这门课程及 FLALine 相关工作的各位老师！

Welcome to Online Learning 欢迎来到“在线学习”课程



(Hands drawing each other, from https://en.wikipedia.org/wiki/Drawing_Hands)

Greeting! Welcome to Online Course of Online Learning!

Is that weird to study "online learning" through online learning? Like the two hands drawing each other? How can we do that? You will see and you will be successfully handle it. The COVID-19 pandemic highlighted the need for meaningful online learning capability to learn freely, especially to the learners who are not satisfied with their ordinary learnings in the physical world. Online Education has been becoming any high-efficiency learners' basic need, but not only an alternative learning method. More and more Chinese K-12 students will prefer Online Education to be part of their supplemental education or even the replacement of their regular education. This course not only focus on improving students' online learning knowledge, skills and abilities, but also aims to lead the students to learn initiatively, to learn how to learn, to ponder the meaningfulness of learning, to foster life-long learners.

"FLA Line" is a new word composed by FLA (Future Leadership Academy) and Online Education, which is on behalf of Future Leadership Academy Online Education. Online

Learning is one course in FLA Line. You can regard this course as a bridge between our physical school and a virtual school. As one G7 or G8 FLA student, you need to equip basic online learning competencies to confidently finish your dual-enrollment program in G9-G12, or some of you may register more on-line course credits or even try to grab more certificates in any other aspects they want to dive deeper. Please be aware of that the virtual school I mentioned before is NOT just an American Online High School in which you will get diploma, actually the virtual school is the whole internet. With more meaningful online learning competencies, you have more possibilities to harvest more in this amazing gold mountain of knowledge.

The world you are living in is changing rapidly. FLA Line Online Learning courses is an alive course which will keep evolving. And this evolving course is for you, another life-long learner.

欢迎来到在线学习课程来学习“在线学习”。

是不是听上去有点怪怪的？我们要通过在线学习的方式，来学习“在线学习”？就好像图中的这两只描绘彼此的手一样。相信我，在这门课上，你将成功地完成这件看似奇妙但不奇怪的事情。在全世界经受 COVID-19 的威胁下，能自由学习的“高效在线学习能力”被人们再次重视起来——特别是那些在实体学校中“吃不饱”的学有余力的学生。在线学习已经从锦上添花般的补充学习方式，变成了对每一位高效学习者的基本要求。有越来越多的中国 K-12 学生，会选择“在线教育”作为自己的主要学习资源或者补充学习资源。本课程不仅关注学生对于在线学习的相关知识，技术和能力的学习，还力求引领学生开始主动学习，掌握高效学习，求索学习的意义，实现终生学习。

“FLALine”是由 FLA（未来领导力学校英文简称）和在线教育（Online Education）及线下教育（Offline）这三个英文单词组合起来的。其寓意是：FLA 的在线教育不是独立割裂的一个项目，而是和 FLA 的线下教育有机结合在一起的统一体。我们期待的是线下（Offline）线上（Online），两线并一线，双剑合璧，博采虚拟世界和实体世界这两个世界的精华，为 FLA 的学习者提供最好的教育。在线学习，是 FLALine 中的一门课程，你可以将这门课程看做是贯通实体学校和虚拟学校的一个桥梁。通过成功学习“在线学习”课程，你将习得基础的在线学习素养，更加自信和有准备地去挑战类似中美双学位这样的线上学习项目，或者选修线上学校的学分来弥补线下学习的不足或不尽兴——其实整个互联网就是一个巨大无比的虚拟学校，具备了强有力在线学习能力的你，也将有机会更加安全及更加自由地去开采虚拟世界中价值连城的知识富矿。

数码世界，是一个天高任鸟飞的世界，同时，主动或者被动地，我们也被裹挟在这样一个瞬息万变的数码世界里。在线学习这门课程本身也在不断演变之中，以让每一位课程学习者具备与时俱进的在线学习素养，这是一门属于你的课程，再次欢迎你，终身学习者。

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- 二、什么是在线学习
- 三、什么是有效的在线学习
- 四、在线学习技术
- 五、在线学习资源
- 六、反思总结

附录:

- 1. 学生的数码素养、在线学习礼仪、学术诚信政策、预备知识及素养
- 2. 家长如何辅助学生做好在线教学
- 3. FLA 在线课程标准
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- 4. How to Assist Online Instructors in K-12 Education in China

第一模块 什么是学习？

Module 1 What is Learning?

Essential Questions

1. Why should we learn?
2. What is learning?
3. Are there any secrets of learning?

Objectives

At the end of this unit you will be able to:

1. Differentiate between schooling and learning.
2. Differentiate between diffuse learning model and focus learning model.
3. Recall your successful experiences you got after you practiced a lot.

Learning Plan

It's unreal and impossible to master learning in a unit. Learning how to learn and keep trying what kinds of learning models, strategies and skills are suitable and workable for you is one of our life-long learning objectives. It's not a depressed saying, but fun and meaningful reality. You are not alone. Dr. Oakley and Mr. Duan are nobody but just older students like you. Learn how to learn before you start to learn is just like sharpen your saw before you cut a wood. This unit is your one small step for online learning, one giant leap for transferring from a physical classroom to a virtual one."

Firstly, you need to watch VoiceThread lecture of What is Learning from Mr. Duan.

Secondly, continue to dive deeper to learn how to learn with Dr. Barbara Oakley. Watch her presentation on TED and ponder what is learning.

Thirdly, finish a quiz of what is learning.

Forth, set your personal profile on Canvas with your personal information.

Fifth, share your stories about your successful experiences.

核心问题

1. 为什么我们应该学习？
2. 什么是学习？
3. 学习好的人有什么秘密武器吗？

目标

在完成这部分的学习后，你将能够：

1. 分辨“上学”和“学习”的不同。
2. 区分“聚焦性学习”和“发散性学习”。
3. 回顾你在经过大量练习后成功的经历。

学习计划

想要在短时间内就掌控学习是不可能的。学习如何学习，学习什么样的学习模式、策略或技术是适合你的，是我们终生所需要学习的目标之一。这并非是令人沮丧的说法，而是有趣且意义非凡的现实。你并不孤独。在这一章里，我们将认识一位非常擅长学习的学者，Oakley 博士，还会深入了解曾经不善于学习的段玉佩老师，他们都只不过是比你更老一些的学习者而已。在你学习之前先学会怎么学习，是一件磨刀不误砍柴工的事情。这一章节的学习虽然是你踏入在线学习的一小步，但却也是你从实体学习环境进入虚拟学习环境的一大步。

首先，你需要通过异步学习的方式，聆听段老师的讲座《什么是学习》。

然后，你将会跟随 Oakely 博士深入学习怎样学习。观看她在 TED 上的讲座，并思考你对于“什么是学习？”这个问题的答案。

第三，完成什么是学习的课后测试。

第四，在学习平台（Canvas）上设置你的个人信息。

最后，在学习平台上分享你成功经验的故事。

What is Learning?

1. Tell the difference between learning and schooling.

The famous American author Mark Twain once said, “I have never let my schooling interfere with my education[1].” People wish excellent schooling yield good learnings, but please be aware of the difference between schooling and learning, they are same. The dream of getting good learning outcomes through only schooling is only a dream.

There are even some problems hidden in few schools where students may get poor education, or even anti-education. Having education in this kind of schools is a waste of life and may have bad impact for future. For example, Paul’s high school in *All Quiet on Western Front*, written by Erich Maria Remarque, and JiJiJi University where Lu Xixi studied in a children’s book called *Unofficial Biography of Lu Xixi*, written by Zheng Yuanjie, are such kind of schools.

Here is a photo which I shot at Confucius Temple in Ya Cheng, Hainan. The names printed on the memorial tablets were the most excellent students of Confucius’. How successful was Confucius’ education? Let’s do a calculation. There were 72 or 77 excellent students of Confucius were regarded as very successful. If we use 80 as the number of Confucius’ successful students to divide 3000, the sum of the students who had been taught by Confucius, the Confucius’ ratio of successful education is 2.6%.

What was the result of Socrates’ education? There were only 7 famous students[2] successfully educated by Socrates in his whole life.

If we use teacher evaluation standards which have been using in some current schools to evaluate the schoolings which Confucius and Socrates delivered, they might lose their jobs.

The joke is telling you that schooling is not equal to learning.

2. Definition of learning

Scholar defined learning as “the process of acquiring new understanding, knowledge, behaviors, skills, values, attitudes, and preferences[3].” Where does the learning process happen? It may happen in social environment, school, or at home... but it must happen in our brains, because all learning is brain learning.

Journey to the West (Chinese: 西遊記; pinyin: Xī Yóu Jì) is a Chinese novel published in the 16th century during the Ming dynasty, and attributed to Wu Cheng'en. In this novel, it depicted a place where Sun Wukong learnt his skills—his own heart. Ancient Chinese believed the heart could think and learn new things. The English word “Psychology” was translated to 心理学 in Chinese, which was also wrongly believed human’s heart has the functions of pondering.

Our negative or positive feelings, our memories of childhood, and our understandings about the whole world all happen in our brains, not hearts. A person whose brain is dead is legally confirmed as the end of his life. A man would always be himself even though all organs except his brain are transplanted. If his memory was transplanted as well, is he still himself? Learning happens in our brains. The process of learning is the process of building memories. The expectation of schooling is transplanting memories from great educators to the learners. The higher quality the process could have, the more excellent education outcomes could be yielded.

Here is a futuristic picture[4] by a French artist. The painter imagined that in a hundred years, the future school would have a learning machine which could transplant knowledge from books to students’ brains. The picture made me langue?? at first, then it made me frightened. If one’s learning process just means to input content directly and easily from the learning machines to brains, it’s nothing but brain washing.

3. How should we learn?

As some of you probably know, MIT’s motto[5] is “Mens et manus”, which is Latin for “Mind and hand”. The words remind us to learn through practice and reflections.

“A gentleman should study extensively, inquire prudently, think carefully, distinguish clearly, and practice earnestly.” is a sentence from Zhong Yong, a Chinese Classical work, which shares the same value with MIT’s motto.

Our Learning should be a journey that starts from our brains, and go back to our brains after practices. But, it’s not an easy journey, since there are two door keepers who stop us from starting our learning journeys. Who are they? One is Emotion, the other is Motivation. If we fail to get along with either of them, the learning would not be set off. We can't wake up a person who pretends to be asleep just as we can't make a person who has no emotion and motivation but still tries to pretend to learn in the classroom.

How can we have the emotion and motivation of learning? There are two strategies for you.

Use “threaten by force” and “lure by promise of gain” wisely. Please be aware of the quotations, since the two funny expressions of strategies aim to motivate you to keep reading with a good emotion. Please do not transplant apply? the strategies directly.

There was an old saying in Chinese: “If you study hard, you will be successful, and be able to afford a big house and to marry a beautiful woman”. In Sir. Francis Bacon’s “Of Studies”, he claimed the usage of learning as “Studies serve for delight, for ornament, and for ability.” The two examples from China and Britain belong to “lure by promise of gain”.

People who don’t know how to learn will not have a bright future. You can regard this sentence as an example of “threaten by force”.

If “Threaten by force” and “lure by promise of gain” don’t work for you, you can try to transplant your successful experiences.

4. The successful experience can be transplanted

I want to share my personal experience with you and I hope it can bring you some ideas about how to transplant your successful experience into the areas you may not be skilled at, then eventually you can learn and master them successfully.

I have been studied in 3 different primary schools since my parents had to move frequently for their careers. I was transferred to a modern primary school from a shabby one in a small village when I finished Grade 4. The new school was different. The facilities and buildings were much more modern, the number of my classmates was increased, and even the subjects seemed to be more difficult, I was like Alice fallen into the rabbit hole and everything was fresh to me. I had never had English courses in my previous school. In one English class, the teacher was teaching about “be” verbs. When I heard “Be” from her mouth, I wrote a Chinese character which sounded like “Be”(必) but not “BE” on my notebook. When my teacher saw that, she wrote a big Chinese character “必” on the blackboard and asked the whole class to look at. All the students laughed loudly, and that made me to feel ashamed.

Also, my mathematics teacher in the new school used a special way to “threaten” all students to learn harder. She let the students sit in the center and the front of the classroom if she or he had the best academic performance. Students would get their specific position in the classroom with their test scores. After several tests, my position in the classroom was moved to the corner. I was not tall enough to see the content on the blackboard. Without learning efficiently in the class, my test scores could not be improved. I was afraid to go to school and I worried about the parents’ meetings followed by the examinations.

My mother refused to attend the next parents meeting and asked my father to attend instead. She felt very ashamed to be criticized as an adult due to her son’s poor academic performances. I felt ashamed as well, but I didn’t understand how to improve my performance. Some boys in my class gave me a derisive nickname “Yankee” and made fun of me about my old-fashioned clothes and my clumsiness. I doubt myself very much about my intelligence for quite a long time.

The transition happened after a rope-skipping competition. That was a school wide rope-skipping competition. No one wanted to register as a competitor on behalf of our whole class to take part in the double under skip competition. I had zero experience of double under skips when I found the situation. I tried to watch how 6 graders do double under skips the day before our grade would have the competition. I noticed that the jumpers swung their arms more quickly and jumped higher than doing the single under skips. I tried to jump higher and swung faster to successfully had 1 or 2 double under skips immediately. After a rest, I continued to practice, then I could make 3 or 4, I kept practicing the whole night, then I registered to compete double under skips the next day. Finally, I won the third prize in that competition. My head teacher and classmates all congratulated me for my contribution to the class. I felt very proud.

The transition continued and the positive effect became more and more apparent when I started to learn how to play flute. There were a lot of students studied how to play instruments after class in my new school. I didn't want to be alone, so I chose flute to play after class like most of my classmates. However, my classmates had been learning for a couple of years and I had to learn with younger kids as a novice learner. Every class in the very beginning, the teacher would check our flute playing and selected the best one to show more examples for all the peers. I was always selected as the best player to show in public, and that made me feel more and more confident.

Today, I can understand the reasons why I was so excellent in flute class while as a poor academic performance student in my school. I was the oldest one in that class, so I was more physically matured than other young kids. One or two of them even could hardly touch the last key on their flutes. The praise from the instructor made me tend I would like to spend more time practicing my flute after receiving praise, so as to get more praise. The time in my flute class became my best part in the new school. Two months later, I was transferred from the novice class to the advanced one. My classmates yelled exaggeratedly, "hey, Yankee is coming to our class!" I felt frightened until I saw my flute. Soon, I became the best one in the advanced class after more practice. Practice makes perfect. It was one secret of

learning I found. I didn't have IQ problem and I was not clumsy either. All I was short of was practice. Malcolm Gladwell promoted 10,000-hour rule in his *Outliers* to express that enough practice will make an expert of anyone.

Here is another example for you to learn how to transplant successful experience. Dr. Barbara Oakley was a normal happy country-side girl who joined U.S. Army when she was 18 years old. She got her Bachelor Degree of Science in Electrical Engineering when she was 31 years old. Before that, she served in US Army Air corps as a bomber pilot and got a Bachelor Degree of Arts in Slavic Languages and Literature. Few of her experiences before her 30s were related to math and science. One more secret of learning I want you to notice from Barbara Oakley is the ability of focus. Dr. Oakley expressed that she just transplanted her concentration ability from Army training to academic learning.

5. **More secrets of learning well.**

During the process of learning, is there anything we can do to improve our learning outcomes? Yes, good sleep and enough sports.

Our brain can have good rest and the memories could be stored better during our sleeping. With the higher quality sleeping, our learning proficiency would be improved. In the average adult human, the brain represents about 2% of the body weight. Remarkably, despite its relatively small size, the brain accounts for about 20% of the oxygen and, hence, calories consumed by the body^[6]. Sometimes, the reason why you are short of energy and power of learning in the classroom was nothing but short of oxygen. Open the windows or go outside to do some sports to get more oxygen and power for your brains is a smarter choice than keep learning low-efficiently.

What else can I do if I want to improve my learning when I have already got the emotion, motivation, good sleeping and enough sports? Here is a great online course for you to equip more learning skills: *Learning How to Learn*^[7] which was

designed and instructed by Dr. Barbara Oakley. I hope you found more secrets of learning from this online course.

References

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[2] <https://www.cambridge.org/core/books/cambridge-companion-to-socrates/students-of-socrates/A6E71262DD205465B41D89C5D4C69A0C> (Links to an external site.)

[3] Richard Gross, Psychology: The Science of Mind and Behaviour 6E, Hachette UK, ISBN 978-1-4441-6436-7.

[4] <https://publicdomainreview.org/collection/a-19th-century-vision-of-the-year-2000> (Links to an external site.)

[5] https://mitadmissions.org/blogs/entry/mind_and_hand/ (Links to an external site.)

[6] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC124895/> (Links to an external site.)

[7] <https://www.coursera.org/learn/ruhe-xuexi/home/welcome>

什么是学习？

1. “学习”和“上学”的区别是什么？

美国的大文豪马克·吐温（Mark Twain）说过一句话，“I have never let my schooling interfere with my education(A Quote by Mark Twain, n.d).”我从来不会因为上学，而影响我受教育。人们希望通过受教育的过程，让自己达成学习好的结果。马克·吐温提醒我们的是，“上学”和“受教育”是两码事，不要希望仅仅通过上学这个过程，就实现学习好的结果。比如有的时候，人们因为上的这个学本身就有问题，则导致受到不好的教育，结果是来上学还不如不来上学。比如，《西线无战事》中，保罗的高中，《鲁西西外传》中鲁西西上的唧唧大学。受过好的教育的一大表现，就是可以正确分辨概念之间的区别。“上学”和“学习”是不一样的。

全世界各地，有很多的孔庙，大家可能注意到，在孔庙中供奉的排位上有名有姓的，他们是孔子 3000 弟子中“授业通身”的贤能之士，也可以说是孔子的学生中，学业有成的人。这些人有多少呢？数字有两种说法，72 和 77，我们若以 80 人来记算，孔子的教育成功率差不多是 2.6%。

了解了我国至圣先师的教学效果，我们再来比较一下古希腊苏格拉底的教学工作做的怎么样。在苏格拉底的教育生涯中，共教导出 7 位著书立说的知名学者(Döring, 2010)。按照很多学校的教师评估标准，孔子老师和苏格拉底老师将无法通过学年绩效考核而失业。

这个玩笑是想提醒各位注意一个事实，在任何时代任何区域都在发生的一个事实，不是每一个来上学的，最后都能学习好。

2. 学习的定义

学者对于学习 Learning 的定义描述为：学习是获取新的理解，知识，行为，技术，价值观，态度和偏好的过程。（Learning is the process of acquiring new

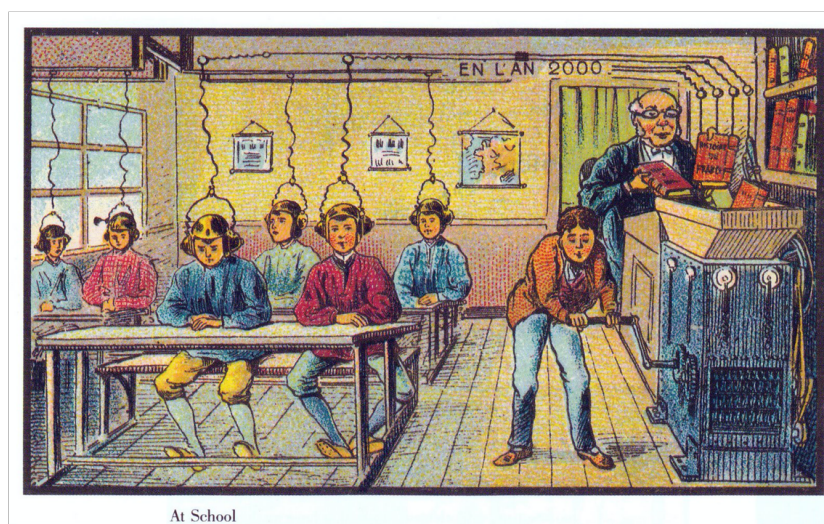
understanding, knowledge, behaviors, skills, values, attitudes, and preferences)

(*Psychology: The Science of Mind and Behaviour: Richard Gross:*

9781444108316, n. d.)。请问，这个过程发生在哪里？可能发生在社会，可能发生在学校，可能发生在课堂，可能发生在家中……但一定发生在大脑中（All learning is brain learning）。

明朝的吴承恩在《西游记》中写孙悟空学习本领的地方，叫做“灵台方寸山，斜月三星洞”。宋朝的张孝祥过洞庭湖时吟哦着“悠然心会，妙处难与君说。”现代人常说的“心理学”，其实都是错误地将发生在脑中的事情安放在了心里。

我们对于世界的认识，我们的童年记忆，我们对问题的思考，我们的喜、怒、哀、思、悲、恐、惊，都在大脑之中。一个人只要大脑还可以正常工作，任何器官死亡都不代表其真正的死亡：肝脏、肾脏，甚至心脏都可以移植，但假如“记忆也随着大脑移植了”那么这个人就不再是这个人了。医学上评判一个人的真正死亡，标准就是脑死亡。顺便说一下，《假如记忆可以移植》是 1999 年中国语文高考作文题目。一个人的学习过程，就是创建自己大脑中记忆的过程。一个人受教育的过程，就是教育者将记忆移植到这个人脑海中的过程。这个过程进行的好，学习效果也就自然不错。



(未来想象画(*A 19th-Century Vision of the Year 2000*, n. d.))

给大家看一副在一百多年以前的未来想象画(*A 19th-Century Vision of the Year 2000*, n. d.)，描绘了艺术家对于 100 年之后，也就是 2000 年时学校的想象。艺术家想象在 100 年后，应该已经发明出了记忆移植机器，教师通过学习机器，将书本上的

知识直接输入到学生的大脑中。画报中描绘的“学习场景”首先让我感到可笑，然后让我觉得可怕。因为，如果学习只是照单全收，单向输入的话，那不就是洗脑吗？

3. 我们应该怎样学习？

这是麻省理工学院（MIT）的校徽（*Mind and Hand / MIT Admissions*, n. d.）。校徽上的两个拉丁文 *mens et manus* 翻译为英文是 *mind and hand*，中文直译为“心智和手”，再雅致一些可以翻译为：思考与实践，或者“知行合一”。

我们的学习，应该是从大脑出发，经过实践，再回到大脑的旅程。想要开启学习之旅，并非简单之事，把守学习大门的，有两个门卫，一个叫情绪，一个叫动机。情绪不对，动机不足，学习就会心不在焉。情绪高涨，动机充足，学习就可能心无旁骛。我们无法叫醒一个装睡的人，也无法教会一个徘徊在情绪和动机这两个门卫把守的学习大门之外，装作学习的人。

想要迈进学习之门，通过情绪和动机的防守，也没那么难。有两种策略供你选用。一种是“利诱”，一种是“威逼”。中国读书人说：书中自有黄金屋，书中自有颜如玉。西方人培根说：学习（读书）足以怡情，足以博彩，足以长才（*Studies serve for delight, for ornament and for ability.*）。这是利诱。不会学习的人，没有未来的——这是威逼。

威逼也好，利诱也罢，目的都是要让学习者真正开启学习状态。有很多人的学习的障碍，恰巧是威逼利诱过度，是由于之前很多次的失败的或者不快乐的学习经历形成的条件反射所导致的，这可怎么办呢？对于这类情况，我的建议是，移植你的成功经验。

4. 成功经验可以移植

我小学6年转过3次学。在我5年级的时候，父母将我从原来就读的一所农村小学，转入了一所城市小学。校园和教室变得现代化了，同学的人数变多了，科目学习变难了，我好像进了大观园的刘姥姥，看到什么都觉得新鲜。从来没有正经上过英语课的

我，面对着新学校的专业英语教师的英语语法讲授，根本就像是在听天书。有一节课，老师在讲 **Be** 动词，我就在自己的笔记本上写下了笔记必动词。碰巧被老师看到，她就暂停了讲课，在黑板上写了一个大大的“必”字，然后告诉全班同学说，我们班有同学写 **be** 动词是这样写的。同学们哄堂大笑。我顿时无地自容。在数学课上，老师根据测试分数进行班级座位排序。成绩最高的同学排在最中央的最前排，成绩越差就坐的越靠后，越靠边。几次考试之后，我的座位被排到了全班最靠墙的倒数第二个，连黑板上的字看起来都费劲。要知道，那时候的我的身高，在全班男生中是第 2 矮的。学习成绩的落后，让我特别畏惧去学校上学，更畏惧考试后的家长会。有一次我妈妈参加完我的家长会后，就跟我爸说，以后段玉佩的家长会我都不去了，太丢人了，全班学习最差的几个学生在家长会之后被留下来挨着个批评，我受不了了。我听到这话难过极了，但也不知道怎样才能学的更好。当时班里几个学习好又淘气的男生还给我起了外号，叫“乡巴佬”。因为我穿着老旧，举止粗笨，学习成绩还特别差。我当时一度怀疑自己是不是真的智商有问题。

我的学习转机，发生在一次跳绳比赛中。跳绳比赛以班级为单位计分，每个班选出参加单摇、编花、双摇等各个跳绳项目的选手，每个项目获胜的选手可以为本班加分。我们班的男生中，没有会跳双摇的，这个项目眼瞅着就要记零分了。作为 5 年级 1 班的一员，我非常希望自己的班级能在年级跳绳比赛中获得好成绩，但我自己也不会跳双摇。当天下午，6 年级同学先比赛，我就等在操场上，看 6 年级跳双摇比赛的选手们是怎么跳的。通过观察，我发现，相对单摇来说，双摇需要跳的再高一些，手摇的再快一点。我就试着练了几下，很快，就可以跳出 1 个 2 个了，但是不能连续跳，没关系，休息一下再来。这次，成功跳了 3 个 4 个，而且，已经可以连续跳 2 个了。休息一下再来。就这样，只用了一个晚上，我就已经可以连续跳很多个双摇了。第二天，我报名了男子双摇比赛。居然在比赛中获得了年级第三名的好成绩。班主任和同学们都纷纷向我表述祝贺，也同时感谢我为班集体多争取到了分数。我因为自己终于可以给班集体做贡献了，而感觉到特别强烈的成就感。

这个转机在我学习长笛演奏时，得到了发展。因为我的新小学是北京市金帆艺术校，学生们有机会学习西洋乐器演奏，我也凑着热闹，跟着大家一起学习。我最终选择的乐器是长笛，我的很多同学都已经学习器乐很多年了，但我因为是初学者，所以被分到和 2 年级，3 年级的小同学一起学习的初级班，我是年龄最大的初学者。每次上课

的时候，老师让每位同学依次吹一下上次学习的曲目，因为年龄大，手臂长，气息足，我几周之后就成为了班中吹的最好的学生，老师每次都会让我做示范，夸我吹的好。现在看来，我在一群小朋友中吹到最好是必然的，很多2年级的小同学连长笛的键盘都还按不全呢，怎么可能吹的好呢？但当时我觉得，吹长笛是我最快乐的学习过程，放学回到家之后，我也乐此不疲地练习，以便在下次上课时，再成为全班的表率。2个月后，我就从初级班进入已经训练了2年的高级班了。当我进入都是5年级6年级的班级时，我的同学还向我开玩笑说，嘿，乡巴佬来咱们班啦。我当时还真有点胆怯。但是，看了看手中的长笛，顿时觉得自信十足，因为我清楚地知道自己有多么刻苦的练习。果然，当我在高级班中也吹的最好之后，同学们也就没人再叫我乡巴佬了。现在想一想，当时我在短时间内能将长笛吹得很好，道理其实很简单。我因为在吹奏长笛上获得了认可，所以愿意投入更多的时间和精力进行练习，这样的练习会让我的长笛吹得更好，而后获得更多的认可和赞赏，如此往复，良性循环。

跳绳上及长笛演奏上的成功，让我重新认识了自己。我并不是白痴，在学习上的暂时落后，是我的积累不够，练习不足导致的。格拉德威尔的《异类》中，描述了1万小时定律。和欧阳修的《卖油翁》中所描述的道理及我成功的原因都是一致的：我亦无他，惟手熟尔——熟能生巧，**Practice makes perfect.** 对于学习，通过了情绪和动机的关卡，后面的秘诀就是持续练习了。

5. 学得好的诀窍

在持续练习的过程中，还有什么方法可以让学习效果大增的吗？有的。睡觉和锻炼。

我们在睡眠的过程中，可以清楚掉大脑中的垃圾，同时会促进记忆的巩固。拥有高质量睡眠的学习者的学习效率更高。成年人的大脑在质量上占整个身体的2%，是个非常小的器官，但这么小的器官却消耗了人体20%的氧气和能量(Raichle & Gusnard, 2002)。在大脑工作的时候，需要消耗大量的氧气，有的时候教室里的同学们昏昏欲睡的原因，可能仅是室内氧气不足，该开窗户了。经常进行体育锻炼，可以帮助你的身体拥有为大脑提供更充足营养和氧气的的能力，大脑的工作效率提高了，学习效率自然也就提高了。

我的情绪和动机都调整好了，睡眠和锻炼也都保质保量的完成了，还有什么技巧可以让我学的更好吗？有的。对学习的内容和过程有更深入的认识。兵家云，知己知彼百战百胜，如果你更清楚地理解学习内容的本质，那么你就更容易获得学习的胜利。当我们学会学习之后再学习，效果往往事半功倍。

在如何学习这件事情上，我很佩服的一个人是美国奥克兰大学的 Barbara Oakley 博士。针对学习，她专门开设了一门在线课程，名字就叫做如何学习。在我们学习在线学习这门课程的过程中，如果你可以同时修 Oakley 博士的这门免费线上课程，那么相信你对于什么是学习，怎么才能更好的学习，会有更全面的了解和认识。

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Questions:

Mr. Duan had low self-esteem issues due to his poor academic performance when he was young. However, his academic performance changed to be better and better after a rope skipping competition and when he started to learn to play flute confidently. It's true that sometimes, we can borrow the successful experiences from some issues to make other issues to be successful as well. We should make reflections to our successful experiences to conclude our own traits and preferences. Everybody is unique, it's not necessary to copy others' lives. Be yourself and try to make your life to be meaningful and successful. Nobody can be extremely successful at every area, and none will fail in all things. You may not be so confident with your academic learning, but you may be a real master learner in some aspects in your life. For example, you can play chess very skillfully, you guided somebody to the right place in a familiar place to you, you successfully cook a dish, you successfully had a very high score when you played some video games, you successfully gained your best personal golf scores...Please share at least one of your successful experiences here and leave your comments to at least one of your peers' stories.

段老师小时候曾经一度由于学习不好而非常自卑，在经历了一场跳绳比赛，又开始自信地学习长笛之后，学习状态居然得到了极大的改观。有的时候我们确实可以通过观察自己在某些事情上的成功经验，来总结自己的偏好及特点——更好地认识你自己，再将这些成功经验运用到另外一些事情上，最终使更多的事情都能成功。每个人的成长历程是不一样的，没有必要一定复制别人的成功之路，坚定地活出自己的成功人生，才是最有意义的。没有人可以在各方面都做极其成功，也没有人在任何方面都不擅长。你的某些成功经验，不一定局限在学术领域，也许是在生活中。比如，你的棋下的非常棒，你也许曾经成功地帮助别人指过路，你也许曾经成功地做出一道菜，你也许曾经成功地在某些电子游戏中获得高分，你曾经成功地获得过高尔夫球运动的个人最好纪录.....请你分享至少一个自己的成功故事，并且至少对一位同学的成功故事进行评论。

第二模块 什么是在线学习?

Module 2 What is Online Learning?

Essential Questions

1. What is Online Learning?
2. Why should I learn on line?
3. What are the pros and cons of online learning?

Objectives

At the end of this unit you will be able to:

1. Recall personal informal and formal online learning experiences.
2. Explain the reasons why we need online learning.
3. Discover some advantages the online learning can provide.
4. Compare more different online learnings.

Learning Plan

Welcome to a school without walls. Internet brought us more possibilities.

Firstly, you need to watch VoiceThread lecture of What is Online Learning from Mr. Duan.

Secondly, you will understand more about online learning from its origin to modern usages.

Thirdly, watch an online course you have had at FLA and taste online learning with registering Khan Academy.

Forth, share your own online learning experience.

核心问题

1. 什么是在线学习?
2. 为什么我应该学会在线学习?
3. 在线学习的利与弊?

目标

在学完这部分之后，你将能够做到：

1. 回忆自己正式及非正式在线学习经历。
2. 解释为什么我们需要在线学习的原因。
3. 发现在线学习可以带来的好处。
4. 比较不同的在线学习活动或课程。

计划

欢迎你来到没有围墙的课堂。互联网带给了我们更多的可能性。

首先，你需要学习段老师的《什么是在线学习》的讲解内容。

其次，你将对在线学习的前世今生有更细致的了解。

然后，在可汗学院（Khan Academy）中注册一门你目前在学校正在学习的课程。

最后，分享你的在线学习经历。

What is online learning?

"FLA Line" is Online Education at Future Leadership Academy. FLAers believe that Online education and Off-line education will be combined to a line to foster our students, parents and teachers. So, you can check that **FLA Line** represents a hybrid education which includes both Online education and Offline Education.

Internet changes uncountable things includes Education. We call the education based on Internet "Online Education". Before that, people had been using other facilities like: letters, televisions, radios, phones to deliver knowledge. So, people named this education outside of campus distance education. Since most of recent distance education are provided with using electrical devices, E-learning is another saying to name online education.



(First email from China)

On September 14, 1987, a computer laboratory in Beijing successfully sent an email that said, "Across the Great Wall we can reach every corner of the world."¹

I was 4 years old in 1987 and my education was nothing more different as the kids born 10 years earlier than me in China. But the kids who born 10 years later than me will embrace an education totally changed by internet. Today, China has the largest online population in the world. The Internet Society of China said in an open letter that the Internet is widely used in

¹ https://en.wikipedia.org/wiki/Media_history_of_China (Links to an external site.)

the areas of politics, economy, culture, medical care and education, and its influence is far-reaching².

Online education is one hope to reduce the cost of cognition. Currently, our FLA students in China can even get world's education via internet. It's knowledgeable, flexible and accredited. Our G10 students are having their online Biology course with an Online instructor who based in Philadelphia, the USA and a teaching coach who was assisting the students in a face-to-face way at FLA in Hainan, China. Our G9 students are having their online English writing course with an Online instructor who based in California, the USA and a teaching coach at FLA. Our students and their parents can learn together and discuss the topics in online Chinese Literature reading course or online Chinese History reading course at homes. The courses were instructed by teachers in Beijing, China.

More and more students from all over the world are getting benefits from online education. Here is a report from New York Times with a title, "Online High Schools Attracting Elite Names."³ This article looking ahead to the prospects of online education.

The excellent online schools give the learners more possibilities about learning and their future. Such as Mizzou Academy, an online K-12 school administrated by the University of Missouri. Actually, I got my master degree from University of Missouri, and my major was Online Education. Exactly, I learnt Online Education via Online learning.

All the students who believe they have potentials of learning can have a try to apply Mizzou Academy, Stanford Online High School or other Online schools to improve themselves more rapidly without constrictions from time and space.

Online education also can support our traditional instructions. The instructors can use online part to save more time and share more resources. Here is an example to show the power of online education is a PBL, Virtual Global Biodiversity Research which was designed and taught by 3 colleagues and I in last summer. We led the students to finish learning about basic concepts of biodiversity, how to use Internet search engines, how to do research

² <https://www.globaltimes.cn/content/881330.shtml>

³ <https://www.nytimes.com/2011/11/20/education/stanfords-online-high-school-raises-the-bar.html>

reviews, and how to equip necessary Information and Communication Technology (ICT) skills about establishing websites. We used 4 days, 3 hours of each day to fulfil this PBL.

什么是在线学习

“FLA Line”代表了未来领导力学校（FLA）所做的在线教育。作为教育者，我们认为线上教育与线下教育应该两线并一线，更好地培养我们的学生，家长还有教师。所以，你可以发现，FLA Line 所代表的是一种混合式教育（Hybrid Education），既包含在线教育，也不脱离线下。

互联网改变了无数的事，这其中就包含教育。我们称基于互联网的教育为“在线教育”。在此之前，人们也借助其他一些技术，比如：信函，电视，广播，电话等来实现教育在空间和时间上的跨越——我们可以统一将这种校园外的跨越时空的教育为远程教育。也由于目前的远程教育主要基于电子设备这一原因，人们也称现在的远程教育（在线教育）为电化教育（E-Learning）。



(图：发自中国的第一封电子邮件)

1987年9月14日，北京一间实验室的计算机成功地发出了第一封发自中国的电子邮件。邮件的内容写的极有深意又以振聋发聩之音昭告了世界：“ACROSS THE GREAT WALL WE CAN REACH EVERY CORNER IN THE WORLD，越过万里长城，我们可以到达世界任一个角落。”⁴

1987的我刚刚4岁，我所受到的教育与比我早出生10年的孩子没有太大的差别，但比我再晚出生10年的孩子，则将完全拥抱一种被互联网改变的教育。如今，中国拥有全世界数量最大的在线人群。中国互联网协会在一封公开信中指出，互联网在中国已经被广泛运用在政治，经济，文化，医疗及教育领域，有难以估量的影响程度⁵。

⁴ https://en.wikipedia.org/wiki/Media_history_of_China (Links to an external site.)

⁵ <https://www.globaltimes.cn/content/881330.shtml>

在线教育有望减少认知的成本。现在，在未来领导力学校，学生虽然身在中国却可以通过互联网获得来自全世界的教育。这些教育资源质量高，灵活度强，被广泛认可。我们的 10 年级学生正在跟随来自美国宾夕法尼亚州的老师一起上线上生物学课程，校园里我们的线下培育师同时为学生提供面对面的辅导。我们的 9 年级学生正在跟随来自美国加利福尼亚州的老师一起上线上写作课程，校园中我们的线下培育师在教室中同步进行教学活动。我们的学生和他们的家长可以一起在家中共同学习和讨论来自北京教师所讲授的在线中文阅读课程或在线历史阅读课程。

全世界范围内，越来越多的学生在通过在线教育获益。来自纽约时报的一篇报道《在线学校正在受到精英大学的青睐》⁶展望了在线教育的前景。杰出的在线学校让学习者的学习和未来有了更多的可能性。就像这篇报道中提到的密苏里大学在线高中

(Mizzou Academy) ,在过去的 7 年中，每年都有几百名毕业学生。我本人正是通过在线学习，获得了密苏里大学的硕士学位，专业方向就是在线教育——没错，我就是通过“在线”教育学习“在线教育”的。

对我们的同学来说，所有学有余力的学生都有机会申请密苏里在线高中或者斯坦福在线高中这样的学校，来更快地增强自己的认知水平，又不受到时空的限制。

在线教育同时可以更好地促进我们的传统线下教学。教师可以线上教育的资源节省更多的教学时间，分享更多的教学内容。我们曾经在学校里尝试过一个混合式 PBL 教学

⁶ <https://www.nytimes.com/2011/11/20/education/stanfords-online-high-school-raises-the-bar.html>

活动，“虚拟环球生物多样性调查”。由我和另外 3 个同事共同合作完成，我们带领学生学习生物多样性的基本概念，练习互联网搜索引擎的使用方法，学习写研究综述，并教给他们基本的网站制作技术。12 个小时后，我们完成了这个项目，36 名同学不仅完成了上面的所有学习和练习，还制作了 9 个网站。

Questions:

1. Can you tell me the difference between traditional on-site education and online education?
2. What kinds of online learnings you have experienced?
3. Can you share your points about online education?

问题:

1. 你可以分辨传统教育与在线教育都有哪些区别吗?
2. 你曾经有过哪些在线学习的经历?
3. 你可以分享自己有关在线教育的认识吗?

第三模块 什么是有意义的在线学习

Module 3 What is Meaningful Online Learning

Essential Questions

1. How can I improve my online learning efficiency and effectiveness?
2. How to develop a suitable personal learning plan?
3. How to fulfill the learning plan?

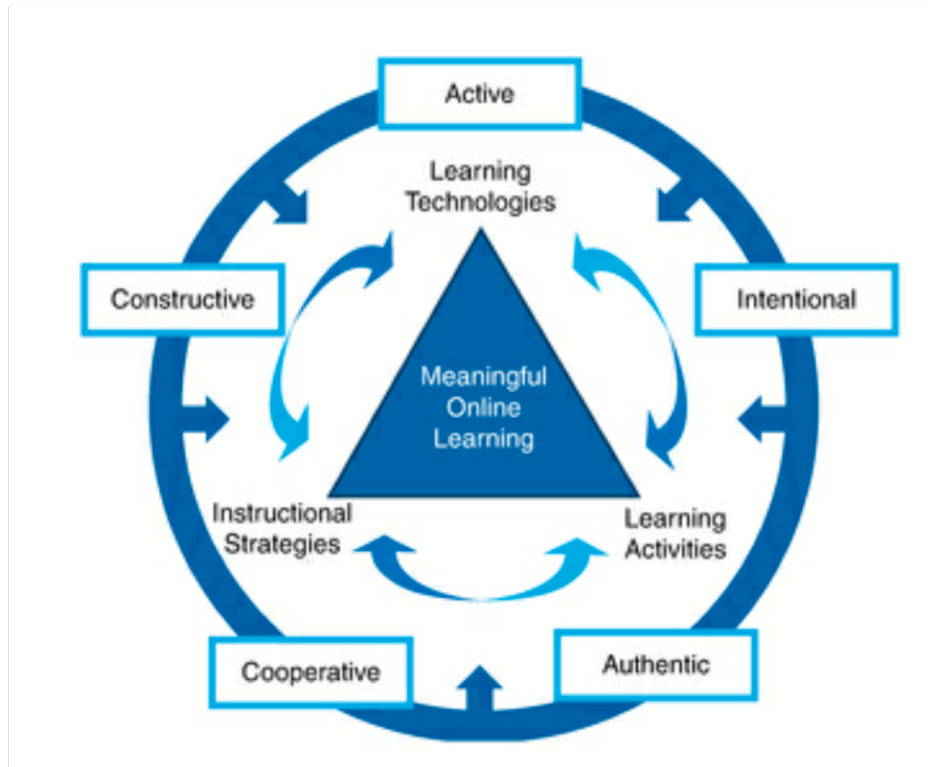
Objectives

At the end of this unit you will be able to:

1. Describe personal intrinsic or extrinsic motivations for doing something clearly.
2. Support intrinsic motivation with extrinsic motivation.
3. Develop personal “SMART” learning goals.

Learning Plan

According to previous learning, we have already known the different between learning and schooling, online learning and face-to-face learning, learning is amazing and itself is a learning objective for our whole life. In this unit, we will apply the competencies we have gotten to dive deeper in online learning. A famous Chinese educator, Ye Shengtao once said, “The goal of education is not to educate.” The learners with passion, love or motivation of learning will be successful learners. How should we foster or find our motivation for learning? How to set our learning goals realistically? The meaningful online learning based on the answers to the questions.



(Picture from (Meaningful Online Learning, Nada Dabbagh, Rose M. Marra, Jane L. Howland)

Meaningful online learning courses contain the following traits: Active, Constructive, Cooperative, Authentic and Intentional. We thank the Internet which provides us a lot of different kinds of meaningful online courses. At the same time, as learners, we could also find our strategies to make our online learning meaningful. Please follow with Mr. Duan step by step.

Firstly, you need to read an article written by Mr. Duan about his passion of Online Education.

Secondly, you will reflect yourself to ponder your motivation.

Thirdly, learn to how to find and foster your motivation.

Fourthly, try to set your learning goals for this Online Learning course.

核心问题

1. 怎样才能让我的在线学习变得更加高效?
2. 怎样设置适恰的个人学习计划?
3. 怎样实现学习计划?

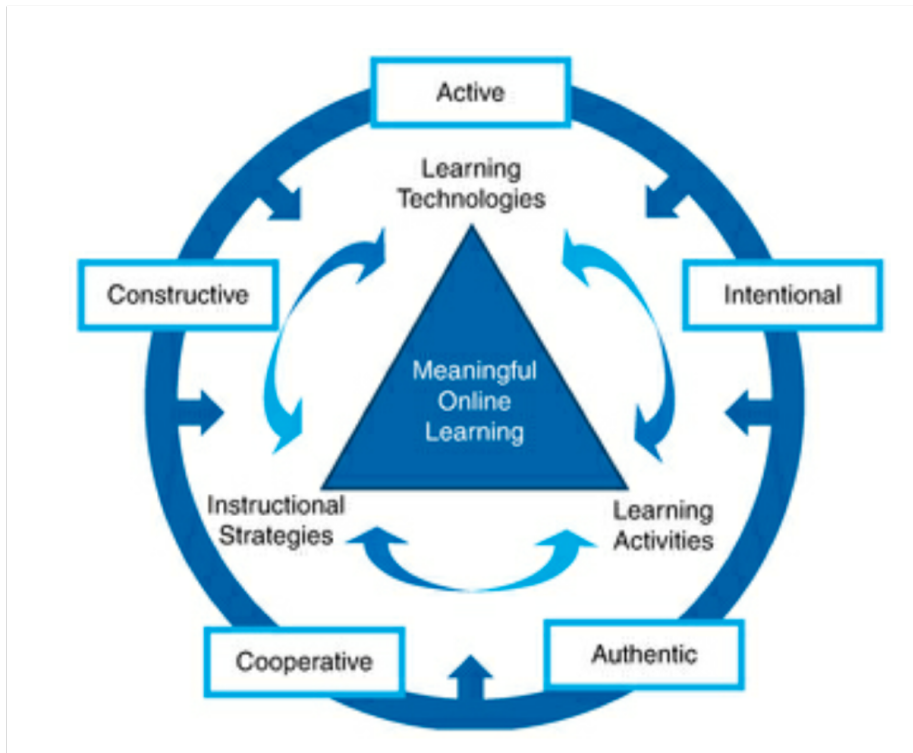
目标

在学习本部分内容之后，你将可以：

1. 清晰地描述你做某些事情的内在动机和外在动机。
2. 以外在动机促进内在动机的发展。
3. 制定个人“SMART”学习计划。

计划

在之前的学习过程中，我们已经知道了“上学”与“学习”的区别，在线学习与线下学习的不同。我们发现“学习”是一个很奇妙的事情，而其本身也是一个我们终生需要追求的目标。在这一部分，我们将利用前面已经习得的素养继续深挖在线学习。著名的中国教育家叶圣陶说过，“教师为了不教。”对所学内容充满了爱、热情，动力十足的学习者，必定将成为成功的学习者。我们怎样培养自己对于所学事物的热情？怎样设置学习目标才是恰当的？有意义的在线学习，就基于这些问题的答案。



(Picture from (Meaningful Online Learning, Nada Dabbagh, Rose M. Marra, Jane L. Howland)

有意义的在线学习课程，包含如下几个特征：活泼的，建构的，合作性的，真实的，目标清晰的。感谢互联网让我们拥有大量类型不同的有意义的在线课程。于此同时，作为学习者的我们，需要找到与之相匹配的高效在线学习策略。让我们跟着段老师，一步一步地来学习，如何进行有效的在线学习。

首先，请阅读段玉佩老师的文章《路》，找出他对于在线教育研究的热情来自哪里？

其次，反思自己曾在什么事情上满怀着热情？

然后，学习如何找到并且培养你的热情和动力。

最后，尝试为你学习这门在线学习课程来设置学习目标。

Tip: Reading ability is a vital ability for your online learning. Here is an article written in 2019 by Mr. Duan when he chose to research online education via online. The emotion and motivation are the door keepers of learning. If you want to learn meaningfully, you must have the right emotion and enough motivation. Please finish reading this article and try to feel Mr. Dua's emotion and his motivation for pushing him to learn online. What's your motivation to learn? How's your emotion when you start to learn? You must find your own answers to keep learning through your whole life.

提示：阅读能力是在线学习至关重要的能力之一。下面这篇文章来自段玉佩老师，写于当他决定以在线学习的方式学习在线教育的2019年。在我们通往高效学习之路上，有两个看门人，一个叫做情绪，一个叫做动力。如果你想让自己的学习之旅高效起来，你必须处理好和这两位“看门人”的关系。请你阅读这篇文章，看一看段老师是如何处理他与这两个“看门人”的关系的。同时，想一想你在自己开始学习的时候，和这两个看门人的关系处理的如何呢？要想成为有效甚至高效的学习者，你必须找到属于自己的答案。



(Photo by Yupei Duan at Robert Frost Farm, New Hampshire, the USA)

...

I took the one less traveled by,
And that has made all the difference.

--Robert Frost

The Roads

----Why I choose “Online Education” as my research direction

In 2003, my freshman year in college, I was trapped at home in Beijing because of Severe Acute Respiratory Syndrome (SARS). All the colleges in Beijing were closed during that period. I secretly rode my bicycle in hope of finding an opened bookstore, because it was hard for me, a 19 years old boy to live without reading. The road was completely empty, which used to be, however, traffic jams all the time. I desired for more knowledge, but that road left me with nothing but emptiness at that time.

In 2007, my second year of working as a middle school teacher, I led several students to Xichang city in Sichuan province to take part in an activity. One afternoon, we went to visit one of Yi People’s families, which was not far from the foot of mountains. The road to the house was so muddy that I can even recall it vividly now. When we arrived, a little Yi girl opened the door for us. She was about the same age as my students, but on her back, her little brother was carried in a basket. The ground and the floor in her home were as muddy as the road we just walked through. She was one of the Chinese school-deprived children, who needed to take care of her family, including her sick grandma. That muddy road always reminded me of children like that girl.

In 2018, I went on a business trip in Boston, USA, and I met two of my previous students, Chao and Sun, who were studying in MIT and Harvard University respectively for their Doctor programs. When we chatted and laughed together, I still could notice their sly and cute expressions as they were very young, but what’s more than that was their maturity and confidence as professional researchers. After the reunion, I took a walk by Charles River alone for quite a long time. “How I wish that good education as they two received can be accessible to everyone, just like the road I am walking by”. Looking back at my personal experience and career development, I am delighted to find that I was on the way to make this dream come true.

From primary school to college, I was not an “excellent” student who needs to be good at reciting and remembering standard answers. Instead, I always ask “Whys”, and I found books can be great help other than teachers. I believe that to be open-minded and a life long learner is always more important than only having good examination scores. Thanks to the Internet and books, they offered me a chance to be enlightened, from Shelley' poetry to Heidegger's

existential philosophy, from Philip G. Zimbardo's lectures of Psychology to novels of George Orwell, from Carl Sagan's Universe to the drawings of Claude Monet. It was another university for me.

After college, I worked as a Biology teacher in Beijing No.4 High School, one of the best high schools in China. Very soon, I became a popular science teacher in my school, and was given the name "A 'Dynamic' Biology Teacher"[1] by a magazine after an interview. What did I do? I tried to think out of the box as I did when I was a student. I asked my students to ask at least three questions which I couldn't answer in one semester. For sure it inspired the kids to find a great number of questions, and the more carefully they thought about, the better ability—observing, thinking, questioning—they owned. Sun, who is studying in Harvard University now, once wrote a mail to me. From his mail, I was glad to know that the Q&A practice enlightened him to think as a scientist for the first time. For my part, I also gained a lot from it: not only it enriched my knowledge, but also improved my teaching quality. I collected those questions and wrote a series of blogs to answer them. Thanks to my students' questions, many of these articles were published afterwards. Meanwhile, in the process of searching for information online, I found English opened another door for me, since more resources were written in English.

With the help of English, there were great advancements in my teaching and self-learning efficiency. I started to watch lectures on MIT Open Course and video courses from The Teaching Company; I started to translate popular science books and essays written in English, and many of them have come out by now(<http://scishine.cn/archives/category/aboutme> (Links to an external site.)); and I started to publish articles on Songshuhui.net, which was the most popular science website in China. During this period, I wrote and published several research papers relating to science education and online education in professional journals[2]. I was invited to give an academic speech[3] on science-gifted education in Korea in 2nd ASEAN Plus Three Junior Science Odyssey. The topic of my speech was "Using Blogs to Make Science Fun". I earned uncountable first prizes in almost all valuable competitions of middle school biology education, and I still tried to cope with all the challenges in my daily teaching.

At the same time, I realized that it was not realistic to improve our education all by oneself; I need to cooperate with other teachers to create a better education environment to help more students. With this idea, a teaching group—"Science Around US"—was born in 2008. It's a

Project-based learning, we led students to learn as a researcher and think from different perspectives by focusing on several topics. A few years later, some of our courses were recorded by China Central Television (CCTV) as popular science episodes and were broadcast to the whole country. When I took part in the International Technology and Engineering Education Association (ITEEA) yearly conference in Atlanta, Georgia in the USA, I showed those episodes to the colleagues from all over the world[4]. The founder of STEAM education Georgette Yakman felt very excited about the work we did for booming science education in China. I wish I could contribute more to STEAM education in China.

2016 I resigned from Beijing No.4 High School and joined in a founding team of a brand new private school named Future Leadership Academy. Working as the Academic Dean in this new founded school, I found life was so busy. However, I still kept learning with all kinds of “e-helps”, such as apps, kindle, coursera.org, mooc.org, etc.. Now, I have just finished learning an online program: the *Certificate in School Management and Leadership*[5] in Graduate school of Education in Harvard University. In the process of developing our school’s curricula, I did research about International Baccalaureate (IB) programs. Their online workshops gave me new insights into how to establish an international school based on Chinese culture.

China owns one fourth of the world’s population. With the rapid economic development, the expectations of better education increased but are not met. Meanwhile, few talented teachers would put down roots in the remote areas of China. In my opinion, the online education is the best solution for such problems, so that everyone would have access to a better education.

I will never forget the empty road I saw during the SARS, and the muddy road I walked through to the Yi girl’s home, as well as the dream of receiving the best education for everyone when I wandered by Charles River.

《路》

——我为什么想要深入研究在线教育

在 35 年的人生之旅中，路，我走过了许多条。有三条，在我思考自己为什么要深入学习在线教育时，不断浮现在我的眼前。

2003 年“非典”，上大学一年级的我被困在北京远郊的家中，学校停课了，商店关门了，整个北京安静了。我把书房里的书都读完了，19 岁的我对于阅读的渴求，逼使我偷偷骑车上街，去买书。那条去往书店的路让我永远无法忘记，曾经它熙攘拥堵，而当时，它却空空如也，一如彼时我空空荡荡的大脑。

2007 年，我当教师的第二年，带着北京的学生去四川省西昌市参加某项活动，在一个午后，我带着学生们攀爬上附近泥泞的山路，去当地彝族同胞家里作客。出门迎接的是个彝族小姑娘，年龄和我带领的初中生相仿，她身上的背囊中睡着她年幼的弟弟，失学在家的她帮爸妈料理家务，抚养弟弟，同时还要照顾病卧不起的奶奶。小姑娘带我们走进院子，再走进屋子，院子的地面，屋里的地板，一如那条山路般泥泞。

2018 年，我在美国波士顿出差，顺路去了旁边的剑桥和自己曾经的两个学生聚会，巢同学与孙同学分别在 MIT 和哈佛大学进行他们的博士研究项目。我们在一起感慨时光的飞逝，还谈起 10 年前他们作为初一新生，我作为他们的班主任时的种种过往……我仍然能从他们的大笑中发现曾经他们顽童时代的“狡黠”，但站在我面前的两位科研人员给当时的我的更多印象，还是成熟练达与对未来的笃定。与他们分别后，我独自经过 MIT 的大圆顶礼堂，沿着查尔斯河边的那条路，走了很久。多希望好的教育能像查尔斯河畔的步道，美好而又通畅，任何想要驰骋其上的人，都可以自由奔跑……反观我自己的成长过程和职业生涯，我突然发现，自己其实一直都在朝想解决或者改善这条步道的方向上前行……

作为一名从小学到大学都在中国接受教育的学生，我不算老师眼里的好学生，我不喜欢机械性地记背可以拿到高分的标准答案，而总喜欢多问一些为什么。在多次不能从老师那里得到满意的解答之后，我学会了从书本上寻觅解释。因为不情愿机械记背知识和做练习题，这导致了我的卷面成绩一直不算优秀，但对于我的朋友及与我熟悉的

人来说，我算的上是一个“有趣并且有点想法”的人。我深知自己的很多知识，其实并非来自课堂，而是来自书籍和互联网。

大学时代，我最感谢的教授是 Google 与 Wikipedia，比起那些课堂上照本宣科的大学教授们，它们给了我更多的谆谆教诲。那个时候的我，已经不必被迫要骑车远行买书来解决大脑的饥渴了，点击鼠标，就可以有卷帙浩繁的资料供我学习。从博尔赫斯的诗歌到海德格尔的存在主义哲学；从菲利普津巴多的心理学到乔治奥威尔的小说；从卡尔萨根的科普到莫奈的画作……互联网为我打开了一所崭新的大学。

2006 年大学毕业，我有幸进入北京四中，成为了一名生物学教师。当我带着学生们领略生命世界的奥妙之时，我有了如鱼得水的感觉。曾经那些从书籍与网络上得来的看似“不务正业”的知识让我的课堂丰富又有趣。曾经有一份杂志对我做采访，后来的采访文章的标题称我为“不安分”的生物老师。我自己当学生的时候不喜欢默守陈规，当了老师后也不希望按部就班地把教室变成一个封闭的盒子。昔日那个求知不得的小孩，成为了现在课堂上指挥若定的王者，率领着学生们去叩问每一个问题的答案。为了更好地培养学生们提问的能力，我要求每个学生在一个学期内，必须向我提出 3 个我回答不出来的问题。说实话，我这个布置作业的人，是被这个作业折磨的最惨的。因为学生接二连三地车轮战般向我发问，他们的思考逐渐深入，我的知识储备总是捉襟见肘。我把那些有提问角度很独特的学生提问连同我的解答撰写成文章，发表在博客上，一方面节省课堂时间，一方面也为更多同学提供了提出类似好问题的启发。这是一个正反馈的过程，学生问的越多，我就需要学习更多的知识，而我能解答的问题更多，也就驱使学生们向更深的方向去思考问题。上面提到的那位已经在哈佛读博士的孙同学，在他高中毕业时专门写了一封电子邮件给我，其中就提到了他对我这个提问训练的感谢，他说那个训练帮助他形成了研究的意识。在不断与提出深层次甚至是刁钻问题的同学的“交锋”过程中，我渐渐发现，中文世界的资料是有限的，我开始尝试使用英文进行资料的查询。曾经，英文对我只是一门考试的名称，但现在它变成了我获取更广泛知识的工具。

有了英语的帮助，我通过网络进行自我教育及教育他人的效率就成倍提高了。我观看 MIT Open Course，我学习 The Teaching Company 的 How to become a super student. 我翻译科普文章和科普图书，我在科学松鼠会的网站上发表科普文章，我撰写利用博客进行生物学教学的论文发表在了《生物学通报》上，我在韩国与来自东南

亚的教育同行分享我的网络教学经验……对传播知识的广度及倡导主动学习的深度上我做的努力越大，我本人在教学水平上的提升就越大。在 10 年的学科教师生涯中，我拿遍了教学方面所有项目的一等奖，小到区级比赛，大到教育部组织的全国级别的评比。在这个过程中，我努力把自己变成一个队伍，将自己武装到随时可以应对日常教学的各种挑战。同时，我也体会到了，我一个人的力量是有限的，应该团结更多志同道合的朋友，把优质的教育资源传播出去，而互联网肯定是最便捷和高效的传播平台。我主动与校内的老师们沟通，组成了由四个不同学科教师组成的“身边的科学”备课组。地理学教师李老师和北京市特级教师，化学王老师和课程论方向的硕士研究生，物理学教师徐老师是纽约州立大学的理论物理学博士，我是备课组组长。分属于不同教研组的老师之间不好统一协调备课时间，在我的倡导下，我们大量使用论坛和微信群的形式进行课前准备。曾经，我要让自己成为一支队伍，这一次，我要让整个队伍成为我自己。我们将课程成果录制成视频，在中央电视台少儿频道播出，在 Youtube 上传播。后来，我在美国亚特兰大参加 ITEEA 第 80 届年会，在做 STEAM 分会场发言的时候，我展示了我们的部分作品，STEAM 教育创始人 Georgette Yakman 对这些成果表示非常兴奋与赞赏，我们一直保持着密切的联系，希望今后可以合作，利用线上形式为中国的 STEAM 教育做出更多的贡献。

2016 年，我离开了工作 10 年的北京四中，参与到一所新型私立学校的创始团队之中，并担任学校的学术部主任。日渐繁忙的工作，更增加了我对于知识与技能的渴求程度，我尽一切努力使用碎片时间学习，手机中安装着在线学习的软件

（coursera），电子书软件（Kindle），听书软件(Blinklist)。曾经为了弄清领导力的概念，我从 Blinklist 软件上下载了 20 多本有关领导力的书来看。为了快速弄懂某个新的科目，我会在 coursera 网站上报一个相关主题的课程进行快速学习，现在，我正在线上参加哈佛大学教育学院的在线教学项目：学校管理及领导力资格认证。在研发本校课程体系的过程中，我积极研究国际文凭（IB）课程，我参加过 IBO 在中国苏州组织的 IBMYP 协调员的线下培训，也参加过针对 IBPYP 的管理员的线上培训。这两次培训都对我助益良多，但对于时间并不自由的我来说，在线学习的形式是更理想的，并且反思两次培训的收获，在线培训由于周期长，资料丰富，给我留出了更充分的反思时间，我通过线上学习对于 IBPYP 管理者的认知程度上的收获甚至大于实地在中国苏州参加的 IBMYP 培训的所得。

这期间我也有机会重新进入中国的某所大学研究生院攻读研究生项目，但在面试环节，当我再次面对曾经那些仍然在用传统方式照本宣科的教授的时候，实在是无法甘愿继续浪费时间。我期待的研究生教育，应该是可以给我更多力量和灵感，工具与认知的，它应该是面向未来的，而不是落后陈腐的。我对在线教育有充分的信心，我坚信经过科学安排与设计，有坚实技术保障，有恰当内容与活动的在线教育，会成为面对面教育的必要补充，能让教育如虎添翼。

前几天，我的搭档，毕业于哥伦比亚大学的 O'Hare 博士，学校的外方学术主任跟我抱怨新学校刚开学的快节奏让很多外教不太适应，他让我 **Slow down the Chinese speed to match the English time.** 我笑着对他说，我会的，同时，我也期望他能鼓励外教们主动进行自我调整， **Use the International resource to boom Chinese Education.**

与我个人事业发展及家庭生活转折相同步发生的一个转折，则是中国的教育。占世界人口四分之一的中国，对于优质教育资源的渴求，在信息技术如此发达的今天是极度强烈的。在中国，移动互联网已经连通了所有人，大山沟里的菜农会通过视频在线拍卖的形式推销自己的农作物，支付宝与微信支付让人们忘记了纸币的存在，优质在线教育能够实现的硬件基础已经有了。同时，中国的经济腾飞，让更多的学习者对能够得到优质的教育需求，变得更加的强烈，但传统教育的方式及理念的更新则远远跟不上需求的增长。能够在未来一段时间中，缓解这个问题的，就是优质的在线教育。

在写下最后这段话的时候，我的脑海中又浮现出 2003 年非典时期空荡荡的马路，2007 年西昌那条泥泞的路，我期望能够深入研究在线教育，让知识传递的路径成为通途，以更丰富的教育资源让中国甚至世界上每一个学习者都能称心如意地得到自己想得到的内容与形式。希望他们能如查尔斯河畔步道上驰骋的跑步者，以他们自己喜好的方式、速度、方向、跑在美好与通畅中前行，都能如查尔斯河畔走在 MIT 和哈佛大学校园里的巢同学和孙同学那样，走他们想走的路。

[1] <http://songshuhui.net/archives/4275> (Links to an external site.)

[2]段玉佩.运用博客拓展初中生物学课堂初探[J].生物学通报,2009,44(04):42-44.

[3] <http://scishine.cn/archives/613> (Links to an external site.)

[4] <http://scishine.cn/archives/1953> (Links to an external site.)

[5] <https://www.gse.harvard.edu/ppe/program/certificate-school-management-and-leadership-leading-change>

Motivation 动机

There are two kinds of motivation. **Intrinsic** motivation comes from inside you. It is a feeling you have that makes you want to do your best or reach a goal for your own satisfaction. Oftentimes intrinsic motivation is identified as our love for something. You might love to play soccer or love to paint. Your love pushes you to do these things and excel at them. Your love is intrinsic motivation and fulfilling that love is the only reward you need.

The other kind of motivation comes from the outside and is called **extrinsic** motivation. Extrinsic motivation includes rewards, such as grades or money or recognition from others, that you will get if you achieve a goal or overcome an obstacle.

Everyone responds to these two types of motivation differently. For some people, intrinsic motivation drives them to excel. They study without the reward of grades simply for the sake of gaining knowledge and information. They push themselves and sacrifice their time to the goals they want to fulfill for hours each day to be the best on the team because they want to know, in their own hearts and minds, that they are the best themselves. They don't need a trophy and they don't need recognition from the coach. They are content knowing they overcame obstacles to attain their goals. For most of us, there is a combination of both intrinsic and extrinsic motivational factors influencing our performance.

Extrinsic motivation works well for short term goals because it gives satisfaction that is tangible. However, to have grit and continue working toward a long-term goal you need to have intrinsic motivation. When you love something and get enjoyment from it, you are intrinsically motivated. It is much easier to do something we love than something we dislike but get paid to do.

You have probably heard this in advice from others concerning choosing a career. Often, doing what we love does not reap the extrinsic rewards society tells us are so important, like money. Working toward a goal with passion and love is much more rewarding than attaining a goal that is only monetary.

(The above content was adapted from:

https://courses.mizzouk12.missouri.edu/courses/4843/pages/2-dot-2-motivation?module_item_id=455317)

Motivation 动机

动机有两种，内部动机和外部动机。内部动机源自你的心底，敦促着你去不停地完善，止于至善，心生欢喜。往往内部动机表现为你对于某些事物的热爱，比如你可能热爱踢足球或者画画。这份热爱会让你不由自主地去想要踢，踢得更好，想要画，画的更美。这源自心底的热爱的最好安放方式，就是让内部动机充分得到实现，不需要别人的承认或者外部的奖赏。

另一种动机源于外部，比如成绩评定、奖金高低抑或是他人的认可。为了获得这些来自外部的奖赏，你努力攻克难题，跨越障碍，实现目标。

人们对待这两种动机的态度是不同的。有些人被内部动机所驱动，不断进取。他们的学习不是为了获取外部的奖赏，而是为了内心对目标的渴求，对知识或未知的刚需。他们在自我驱动下不断地投入大量的时间在想达成的目标之上，他们的内心清楚地知道，他们是最好的自己。他们不需要外在的奖杯或者教练的承认，他们只是单纯想要排除万难，实现目标。对我们大多数人来说，往往会把外部动机和内在动机混合起来，促使我们向前，不断改善，优而更优。

外部动机在短期目标的达成上，有更明显的效用，原因是它可以为我们带来看得见摸得着的回报。但是，如果要实现心怀坚韧，持久努力，实现远期目标，则需要你有强有力的内部动机。当你对某些事物有情非得已的主动热情时，做起它们的难度远远小于那些你不情愿做而只是给你额外奖赏的事情。

也许你曾经在谈论未来的理想事业时，曾经被人建议过要慎重考虑你的内部或外部动机。为你所爱的事业去奋斗所获得的幸福感，要远远大于做不喜欢的事业而获取的经济回报的幸福感。

(以上文字改编自：https://courses.mizzouk12.missouri.edu/courses/4843/pages/2-dot-2-motivation?module_item_id=455317)

Discussion topic: What is your motivation?

Mr. Duan's intrinsic motivation is to boom Chinese Education with online education. How about yours? Do you have any motivation for anything? Share your stories and comment to at least one of your fellow classmates' sharing. Please clearly express motivation and tell us whether intrinsic motivation or extrinsic motivation yours and your classmates belong to?

讨论：你的动机是什么？

段老师的一个内部动机是想通过在线教育促进中国的教育发展。那么你的呢？你曾经对任何事情有过任何动机吗？分享一下你的故事吧。并自我分析一下，你的动机是来自于外部的？还是来自于内部的呢？

Setting Learning Goals 设置学习目标

When you have passion, love or motivation to start to do something. You have already been 50% successful on that thing. What should we do for the left 50%? Set a proper goal and conduct your plan. Now, let's talk about how to set a proper goal.

Why do most people fail at achieving their goals? Set clear goals. Clear goals clear results. Fuzzy goals, fuzzy results.

First of all, don't choose a goal that is too big or too small. You have to break your ultimate goal down into steps that can be achieved. This keeps you motivated and focused on the long-term goal you have set for the future. Imagine a set of stairs where each step is a small goal leading up to your large, long term goal, at the very top. You might also visualize setting goals as a pyramid. You must fulfill smaller goals to build the foundation of your pyramid in order to reach the top of the pyramid, where you will find your ultimate goal.

Tony Robbins, a famous motivational speaker, says "Chunking is power." You don't want to make your "chunks" too big so that you feel overwhelmed and you bit off more than you can chew. You don't want to make them too small because then you won't have the feeling of accomplishment and overcoming obstacles you need to stay motivated toward your end goal.

Second, make sure your goal is clear. It must have measurable results so you know when you have reached your goal. If the end result of the goal is unclear or fuzzy, how will you know when you have achieved the goal you had in mind? When obstacles come your way, you might be persuaded to give up or get stuck for a long time without any progress. Clear goals are essential to gauging progress.

When you decide on this clear, measurable goal you must write it down. Put it in writing to hold yourself accountable. When you see the goal in writing, you will be reminded each day that you have a step to take.

Finally, assign a deadline to meet your goal. You must do this to push yourself to work hard toward what you really want. Be realistic. You know that some things won't happen overnight. You might set a goal that you want to lose weight. Realistically, you know that

won't happen before the end of the week or even the end of the month. Talk to your doctor or health care provider and ask them how much you should realistically lose each week. Then, set your goal based on their expert advice. Let's say you want to get an A in your Math class and, currently, you have a grade of C. You can talk to your teacher to find out how to earn enough points on future assignments and exams to get your grade up to an A. Realistically, you know that staying up all night to study for one exam will not raise your grade overnight. Interviewing or getting advice from professionals is a great small goal you can put at the bottom of your goal pyramid.

Achieving a goal is a momentous occasion and something to be proud of and celebrate. However, it is important to understand that it requires several small goals as “baby steps” or “building blocks” to reach a major goal. That's okay because you can use these smaller goals as a way to measure your progress. You don't just wake up one day as a neuroscientist. You have to take science courses in high school and at university. You have to get into medical school and pass rigorous exams. You have to intern and persevere. It is likely you will need to make sacrifices in other areas of your life in order to make your dream a reality.

Sometimes, creating a visual of these building blocks is a good way to maintain your focus and plan your next step. It helps to keep you motivated to move upward and onward toward the ultimate goal.

You can't stop doing one level when you move on to the next. You have to keep working on the previous level to stay up to date with your skills and maintain that step in the process of reaching your goal. If a goal is measurable, you will be able to specifically identify what you will see, hear, and feel when you reach this goal. You will have concrete evidence to prove you have attained your goal. If your parents or teacher or friend asks about your goal, you will be able to explain to them how you know you were successful.

I suggest you using SMART setting your goal. SMART is an acronym. Read about what each letter stands for in the table below:

S	Specific	A goal shouldn't be too big or too small. Choose one chunk or step toward your goal if your final goal is too large.
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M	Measurable	A goal should be something you can track and measure progress toward. It must be clearly stated and have a deadline.
A	Actionable	There should be clear tasks or actions you can take to make progress toward a goal.
R	Realistic	A goal should be possible to achieve.
T	Timely	A goal should fall within a specific time period.

(The above content adapted from:

https://courses.mizzouk12.missouri.edu/courses/4843/pages/1-dot-4-making-a-plan?module_item_id=455312)

Setting Learning Goals 设置学习目标

当你怀揣着热情，爱或者内部动机去开始某事之时，你已经将这件事情做成了一半了。那么剩下的一半如何也能成功做到呢？需要你设定一个合适的目标和计划，并坚定不移地去践行。现在，让我们一起谈谈如何设置恰当学习目标的问题。

为什么很多人没有办法成功地实现他们的目标？目标设置的不够清晰有效。凡事预则立不预则废。

首先，在设置目标上不要好高骛远或谨小慎微。你可以将你的最终目标切分为不同的阶段的分目标。每一个分目标都是现实可达成的，与你的实际能力相吻合的。这样我们就有了最终想要实现的远期目标，也有了眼下此时此刻应该关注的短期目标。就像你上楼梯一样，让你一下子跳上一层楼显然是太困难的挑战，但是将一层楼的跨度分为许多小台阶，通过迈上一个又一个小的台阶，你最终跨越了一层楼的空间。你也可以将把这个实现远期目标的挑战当做搭建金字塔，只有一块砖一块砖从底部向上开始慢慢搭建，才最终有可能到达金字塔塔尖之处。如Tony Robbins所说，“切分就是力量”。具体切分的细致程度，需要你自己决定，别将任务切分的太细碎，把自己埋在看不到头的细节之中；也同时要小心将任务切分的太笼统，否则可能对你的耐心是一个挑战。

其次，要确保你的目标是清晰的。它们必须具备可以测量的标准，以保证你能清晰地知道哪些目标被达成了。如果你设置的目标是模糊的，很难用清晰的标准测量的，你怎么才知道自己是不是已经达成了这些目标呢？在这个过程中，迟迟看不到进展的你也许会被偶尔出现的障碍或挑战所阻拦而停止不前，甚至中途放弃。清晰的目标设定将帮你清晰看到自己所做事情的发展。

当你确认了清晰和可以测量的目标之后，你必须将它们写下来。通过书写你自己的目标，让自己对对之负责和重视。当你看到自己写的目标时，你能够在每时每刻被目标所提醒，所督促向前。

最后，为你的目标达成设置一个时间截点。因为你真心想要达成目标，所以为此付出努力是必须的。请一定面对现实，接受“罗马不是一天建成的”这样的事实。也许你为自己设置的目标是减肥，现实的目标不是在这个周末或者这个月底实现瘦身之梦。你最好和保健医生谈一谈，向专业人士咨询针对你的情况，每周合理的减肥质量可以是多少，在此基础上设置你的目标。再举个例子，比如你现在的数学课程是C，你想要提高成绩到A。你可以找到你的数学老师，咨询一下你应该补充哪些训练，才能更好地梦想成真。请一定面对现实，一个通宵不睡觉不会让你某个学科的成绩有天翻地覆的变化，从专家那里寻求建议，按部就班地老老实实地一块砖一块砖地搭建你的金字塔，才真正有可能更快地将金字塔搭建完成。

目标达成的那一刻是幸福感爆棚的。但是要奉行不积跬步无以至千里，不积小流无以成江河的精神。慢慢来，比较快。你不会在一夜之间变成神经科学家的。这需要你在高中和大学修习科学课程；需要你进入医学院、通过一个又一个测试和挑战；还需要你反复实践、穷经皓首。在这个过程中，你也同时需要放弃对其他一些领域的好奇，缩减你消遣的时间，长此以往，最终梦想成真。

有的时候，将你的梦想地图更清晰的可视化，观察自己在实现梦想路途中的哪个台阶上，会更好的帮助你关注当下，继续向前。

当成功地迈上一个台阶之后，别停步，反思一下自己新获得的技能，继续向上攀登。有了可以测量的目标之后，我们就能清晰地分辨我们什么时候可以看见，听见，或者感觉到最终的目标就像最后一级台阶一般，被我们踩在了脚下。你将确信无疑地知道自己做到了，达成了梦想。如果你的伙伴或朋友们问你成功的经验时，你应该能够清晰地向他们说明你是怎样一步一步走向成功的。

在我们设置目标的时候，一个非常好的模板是使用SMART模板。每一个英文字母代表一个英文单词，具体的表述如下：

S	Specific	清晰。目标不要过大，也别太小。切分成清晰的阶段或者部分。
M	Measurable	可测量。确保目标是可被追溯及测量的。
A	Actionable	可操作性的。应该能引发具体的任务操作和行动，不断靠近目标。
R	Realistic	现实的。是大概率有可能实现的。
T	Timely	有时间要求的。要有清晰的时间截点。

(以上内容参考自：https://courses.mizzouk12.missouri.edu/courses/4843/pages/1-dot-4-making-a-plan?module_item_id=455312)

Assignment description:

What kind of goals you want to fulfill in this course at the end of the semester?

作业：

在学完这门“在线学习”课程之后，你期待自己达成什么样的目标呢？请你使用SMART模板来设置你的学习目标。

模块 4 在线学习技术

Module 4 Online Learning Technology

Essential Questions

1. How do I collaborate with others online?
2. Why should we master as many online learning tools as possible?
3. What should I do if nobody can give me the answers?

Objectives

At the end of this unit you will be able to:

1. Compare which online learning tools are more suitable for the related scenarios.
2. Carry out effective searching online with using the proper search engines.
3. Express own opinions confidently and clearly online.
4. Design a collaborative project with working with other classmates online.

Learning Plan

The more aspects of online learning you know, the more things about online learnings you want to dig. Internet is just like a gold mountain; online learning tools are your spades and hammers to help you get more on this mountain. We will explore 6 different categories of online learning tools and try to master at least three of them which are been using universally. You will use them very often in your future online learnings. The online collaboration will be a challenge for you and your team members.

核心问题

1. 怎样在线上与别人进行协作?
2. 为什么我们掌握的在线学习工具越多越好?
3. 当我对某些问题找不到答案的时候可以怎么办?

目标

在学习完这部分之后，你将可以做到：

1. 针对不同的学习场景，在不同的学习工具之间进行比较，选出最适合的那个或那些。
2. 选用恰当的检索方法，使用搜索引擎来进行有效的信息检索。
3. 在线上清晰自信地表述自己的观点。
4. 设计一个线上合作项目与同学实现线上协作。

计划

有关在线学习的事情你了解的越多，你就越想通过线上探索的方式，对更多的相关话题进行更深入的挖掘。互联网确实就如金山一般，而你不断获得的在线学习工具则像能在金山上帮你挖金子的铲子和镐头等工具。在这部分学习过程中，我们将探索6种不同类型的在线学习工具，你需要每一类至少熟练掌握3个的使用方法，在未来的学习之旅中，它们会就像强有力的工具那样，伴随你的左右，为你开采出更富价值的矿产。线上协作活动也许是对你和你的伙伴们比较大的挑战活动。

Categories of Technology tools to support online learning

不同类型的线上学习工具



(Picture from (*Meaningful Online Learning*, Nada Dabbagh, Rose M. Marra, Jane L. Howland)

Information **technology** is the study, design, development, implementation, support or management of computer-based information systems—particularly software applications and computer hardware. I will introduce the common technology tools we can use to improve our online learnings. The tools could also be used by the instructors or designers.

We can classify the online learning technology tools into 6 categories (Adapted from Dabbagh, Nada. *Meaningful Online Learning*. Taylor and Francis). You can check them or their links to do more explorations.

1. *Content Creation Tools*

Content Creation Tools are primarily for users who are creating online content.

2. *Collaboration and Communication Tools*

At a very basic level, facilitating communication and collaboration in online settings can help to reduce the isolation that can go along with being an online student as well as personalize the learning experience (Caladine, Andrews, Tynan, Smyth & Vale, 2010).

3. Knowledge Representation Tools (Mindtools)

When we use technology as a partner in learning it is referred to as a Knowledge Representation Tool or a “Mindtool.” Knowledge Representation or Mindtools are distinguished from traditional computer learning applications in that users work with these technologies to represent their knowledge, versus learning from the technology as is the case with traditional tutorial, drill and practice, or any technology where the learner receives an already created product (e.g., a completed PowerPoint presentation).

4. Immersive Tools

Immersive Tools refers to tools used to create a digital environment that allows participants to be totally “immersed” in the context that the environment represents.

5. Information Search and Resource Management Tools

Technology tools that we use to search for resources on the Internet or in specific knowledge repositories (e.g., databases at a library) and ways of managing these resources are at the heart of many online learning activities.

6. Technology Tools for Assessing Online Learning

These tools are often used by a teacher or designer to easily create forced response (e.g., true/false or multiple choice) items that assess recall and recognition.

信息技术，特别是指信息系统（包括：软件应用和硬件），可以用来对信息数据进行研究，设计，搭建，运用，支持及管理。我将为你介绍常用的能够提升我们在线学习效率的工具，这些工具也同时对教育者及在线课程设计者有用。依据学者们的划分，我们可以将在线学习工具分为6种不同的类型：在下面的链接中，你可以查看更多相应工具的更多信息。

1. 内容创造型。内容创造型工具主要帮助使用者在晚上创造内容。
2. 协作与沟通型。从最基本的角度来看，线上沟通工具可以让线上学习者远离孤单，同时营造良好的学习社群。
3. 知识呈现型。当在线学习者使用这类工具时，他们可以更好地将自己内隐的知识进行外显化处理。在使用这些工具的过程中，学习者的学习效果就可以得到提高。

4. 沉浸型。这类工具创造出来的虚拟世界，让学习者更能沉浸在学习过程中，提高学习体验和效果。
5. 信息检索与管理型。在互联网上进行信息检索和资料管理。

线上测评型。这一类工具往往被组织线上教学的教师或设计在线课程的人员来使用，用以更简单更有针对性地了解学生的线上学习情况。

模块 5 在线学习资源

Module 5 Online Learning Resources

Essential Questions

1. What is the difference between supportive, dialogic and exploratory online learnings?
2. Which kind of online learning resources may suitable for me?
3. Could I gain another American High School diploma while learning in China?

Objectives

At the end of this unit you will be able to:

1. Use the proper online learning resources to resolve your related subject learning problems.
2. Design your personal online learning plan to support your ordinary academic learnings at school.
3. Create your own online learning portfolio to assist your following online learning.

Learning Plan

The plentiful online learning resources have pros and cons to the novice online learners. Use the proper resources effectively can avoid learning online overwhelmingly. Understand the traits of specific type of online learnings will assist the online learners to make more wise choices.

核心问题

1. 在支持性学习资源，对话性学习资源及探索性学习资源之间，有什么区别？
2. 哪一类在线学习资源可能是适合于我的？
3. 我能够身在中国学习的同时，获得另一个美国学校的毕业文凭吗？

学习目标

在本模块学习之后，你将可以：

1. 使用适恰的在线学习资源来解决你在相关学科学习过程中遇到的问题。
2. 规划你的线上学习方案，来支持你在学校的常规学习。
3. 创建你自己的线上学习档案集来帮助你辅助之后的线上学习。

学习方案

对于线上学习的新手来说，海量的线上学习资源是利弊并存的。高效地运用适恰的资源可以避免超出负荷地学习。理解相应学习资源的特点能够帮助线上学习者做出更明智的选择。

Supportive Online Learnings

Online Learning course for G7&G8 at Future Leadership Academy is a supportive online course which is taught by an online instructor and an on-site teaching coach. The students can get the support directly from both the course content and the instructors.

As instructors and teaching coaches, we identified the following supportive instructional strategies (Dabbagh, Nada. *Meaningful Online Learning*):

Scaffolding: creating a responsive, supportive learning environment with instructional techniques used to move students progressively toward a deeper and stronger understanding of the learning content.

Modeling and explaining: showing how a process unfolds (modeling), while giving reasons as to why it happens that way (explaining).

Coaching and mentoring: observing student performance and offering assistance to bring student performance closer to expert performance (coaching); acting as role model, advising and supporting students in attaining goals/overcoming barriers and challenges (mentoring).

Please finish the following mini-online course "Decode Life" (contains three sessions) to experience more supportive online learnings.

支持性在线学习

未来领导力学校的“在线学习”课程就属于支持性在线学习资源，它由一名线上教师和一名线下培育师合作教学。学生既能从这门课程提供的资源中汲取养分，亦能得到教学人员的指导和帮助。

作为线上教师及线下培育师，我们使用的教学策略有如下几类（资源引自：Dabbagh, Nada. *Meaningful Online Learning* 《有意义的在线学习》）：

脚手架式协助：利用教学技术，创造有求必应、支持到位的学习环境，协助学习者循序渐进地拓展对于学习内容理解的深度和广度。

示范式及解释性协助：通过展示具体操作过程的实施（示范式），或对某些结果出现的原因进行解释（解释性），来让学习者进行相应内容的习得或者警惕。

培育式及引导式协助：观察学习者的表现并提供协助，不断提高学习者的学习能力（培育式）。以身作则，建议并且支持学习者达成学习目标或克服学习障碍。

你可以通过接下来的“破解生命密码”微课的学习，来更充分地体验什么是支持性在线学习资源。

Dialogic Online Learnings

Let's check what is dialogic online learning. Actually, in Online Learning course, there are some dialogic online part you will communicate with Mr. Duan and/or Ms. Jiang to expand some topics. FLA weekend online Philosophy Course taught by Dr. Wang from Heidelberg, German is a typical dialogic online course. Dr. Wang wish lead the students to have philosophical discussions through his online classes.

Dialogic instructional strategies support “dialogic” or “conversational” teaching, that is, teaching that uses “talk” or discourse (dialogue) to support learning. Dialogic teaching is centered on dialogue (communication and interaction) between teachers and learners, learners and learners, and learners and the professional community. Dialogue can be verbal, written, or audiovisual (e.g., using Skype, Zoom, 百家云, VoiceThread, or similar technologies), and can take the form of a discussion, debate, argumentation, or questioning. Dialogue in online learning is sometimes referred to as digital or electronic discourse. Research has shown that dialogic pedagogies or approaches to teaching can improve student learning (Waite, Jackson, & Diwan, 2003).

The goal of dialogic teaching is to allow different participants in the teaching and learning process to express their opinions and understandings of the content they are teaching or learning, explain and clarify ideas, exchange and develop ideas, ask questions, provide feedback or commentary, demonstrate how knowledge learned can be applied in a variety of contexts, and provide evidence-based arguments that advance and expand knowledge of the content domain.

Task:

Are there any dialogic online courses or topics you have had? Share your opinions about the courses or topics with me.

References

Dabbagh, Nada. Meaningful Online Learning (pp. 103-104). Taylor and Francis. Kindle Edition.

对话式在线学习资源

让我们来看一看什么是**对话式在线学习资源**。其实，在“在线学习”这门课程中，你已经有一些经历是在于段老师和蒋老师的对话互动中完成的了。未来领导力学校在周末由德国海德堡大学哲学博士王涵老师教授的在线哲学课，就是对话式在线教学的一个典型范例。王博士在课上会带领着同学们，通过讨论的形式来展开对于哲学的学习。

对话式教学策略重视“对话”或者“讨论”式教学，主要的教学内容也依此呈现。这里的“对话”和“讨论”可能发生在教师与学生之间，可能发生在学生与学生之间，也可能发生在学生和学术社区之间。对话的内容可以是口语式的、笔谈式的，抑或是声情并茂的——比如利用同步（Skype, Zoom, 百家云）或异步（VoiceThread）的在线交流软件来实现，并且展现形式也不拘一格，比如：讨论、辩论、驳论、质疑等等。发生在线上学习中的讨论，也可以被归属为对话式在线学习。研究证明，对话式在线学习策略及方法的使用，会促进学生的学习效果 (Waite, Jackson, & Diwan, 2003)。

对话式在线教学实施的目的是允许不同的参与者，在教授或者学习的环节中，表达自己对于不同教学或者写的内容的观点和理解，解释及说明某些概念，交换或者发展某些观点，抛出问题，提供反馈或者评论，证明习得的知识可以被运用的不同的场景，并且提供证据充分的论述，来提供或扩展学习的疆域。

任务：

你有学习过哪些对话式在线学习内容或者课程？和我分享一下你对这些内容或者课程的看法。

参考资料

Dabbagh, Nada. Meaningful Online Learning (pp. 103-104). Taylor and Francis. Kindle Edition.

Exploratory Online Learnings

Due to the COVID-19 pandemic issue, during the end of 2020, all students at FLA experienced at least one exploratory online course designed and taught by Mr. Duan. G7 & 8 students might have some impressions of Combined Science, Stories of Science, etc. You can feel free to review them in FLA Cloud class on Dingtalk.

Exploratory learning is easy to start but is hard to conduct efficiently and effectively to young learners with enough online learning experiences.

We identified the following instructional strategies that support exploration.

Problem solving: the pursuit of finding a solution to a meaningful unknown (e.g., the problem)

Hypothesis generation and testing: creating tentative views (e.g., the hypothesis) based on prior knowledge that can be tested to ascertain their accuracy

Exploration and creation: looking into or studying a content area in a fashion determined predominantly by the learner

Role-playing: immersing oneself in a learning activity by taking on a role relevant to the domain.

Task:

Please check the website of Virtual Global Biodiversity Research to classify which type of exploratory online learning it belongs to and share your reasons? What have you found about biodiversity through exploring this website? Make your personal suggestion about how to protect the biodiversity on the planet.

References:

Dabbagh, Nada. Meaningful Online Learning (pp. 138-139). Taylor and Francis. Kindle Edition.

探索性在线学习资源

由于 COVID-19 疫情的影响，在 2020 年年底，未来领导力学校的每一个学生，至少体验过一门由段玉佩老师设计的探索式在线学习课程。7，8 年级的同学们可能对于“综合科学”、“科学的故事”这些课程还有一些印象。在钉钉云课堂中，你随时可以重新浏览这些学习资源。

探索式学习资源往往开头容易，但对于经验不足的在线学习者来说，要想深入学习往往困难重重。教师们会使用如下策略来支持探索式学习。

问题解决型： 对于一个有意义的未知性问题寻找解决方案。

提出假说及检测： 依据现有的知识来提出一个假说，并寻找资源来验证它的正确性。

探索和创造： 由学习者自主展开对某一个学习领域的探索或创造。

角色扮演： 让学习者在相关领域扮演某个角色，在沉浸体验角色的过程中进行学习。

任务：

请浏览网站 [《一网能装多少头大象——在线全球生物多样性调查》](#) (**Links to an external site.**) 来分辨它运用了哪一类探索式在线教学策略（问题解决？提出假说及检测？探索和创造？还是角色扮演？）？通过探索这个网站，你发现了有关于生物多样性的哪些东西？请你根据你的探索结果，对于“如何保护生物多样性？”这个问题提出你的个人建议。

参考资料：

Dabbagh, Nada. Meaningful Online Learning (pp. 138-139). Taylor and Francis. Kindle Edition.

模块 6 反思与总结

Module 6 Reflection and Review

Essential Questions

1. What I have learnt from this course?
2. How should I keep using my takeaways from this online learning course in my future learnings?
3. How could I continue to improve my online learning competencies?

Objectives

At the end of this unit you will be able to:

1. Establish your own website to reflect the content you learnt from this course.
2. Think deeper and further for your future online learnings.

Learning Plan

To obtain a digital passport is the first thing you need to be equipped before you devle into the digital world freely and safely. Then, it's time for you to use all the things in this course you learnt to create your own website which will be open to the whole world. It must be helpful for you and others who really want to know how to learn thourgh internet effectively and efficiently. Wix. com is an universal website platform which is friendly and easy for beginners. You should keep thinking about how to designing your website to show your learnings and your personalities.

核心问题

1. 我从这门课中学到了什么？
2. 我怎样才能将这门课中的所学运用在未来的学习中？
3. 我怎样才能继续改进我的在线学习素养？

学习目标

在本模块学习之后，你将能够：

1. 正确使用数码护照。
2. 建立一个个人网站来反思这门课程中的学习。
3. 更加深入和长远地考虑未来的学习。

学习方案

在你自由和安排地在数码世界中驰骋之前，获得一个数码护照是首要之事。而后，就到了你大显身手的时候了。你将利用在这门课程中学到的内容来建设一个自己的个人网站，随即，这个网站将开放给全世界。这个网站上的内容应该对你自己或者其他像你一样，想在互联网上进行高效和有意义学习者有用。你需要持续不断地思考——如何设计你的网站，才能体现你的所学及你的个性？

Personal Website

OK! It's time for you to use all the things in this course you learnt to create your own website which will be open to the whole world. It must be helpful for you and others who really want to know how to learn through internet effectively and efficiently. Wix. com is an universal website platform which is friendly and easy for beginners. You should keep thinking about how to designing your website to show your learnings and your personalities.

Your website should reach the following aims:

1. Establish your own website to reflect the content you learnt from this course.
2. Think deeper and further for your future online learnings.

You can find English materials about how to establish wix website here:

Submit your website address when you finish it.

个人网站

好吧！现在到了你可以利用在这门课程中学到的内容来建设一个自己的个人网站的时候了，随即，这个网站将开放给全世界。这个网站上的内容应该对你自己或者其他像你一样，想在互联网上进行高效和有意义学习者有用。你需要持续不断地思考——如何设计你的网站，才能体现你的所学及你的个性？

这个网站要实现这样几个目标：

1. 建立一个个人网站来反思这门课程中的学习。
2. 更加深入和长远地考虑未来的学习。

Appendix 附录

Minimum technical skills the students should equip in related grade(s) 相应年级的学习者应具备的信息技术基础

- K-G1
 - Turn on & off devices.
 - Log in and out of an account.
 - Use a-number-of age-appropriate tools for learning (particularly touch-screen based with drag and drop functionality).
- G2
 - Use a browser to navigate the web.
 - Use keywords as search terms.
 - Use a word processing document for composition.
 - Use a-number-of other age-appropriate tools for learning.
- G3-G4
 - Use presentation tools including images, video, and design.
 - Understand how to share a document and collaborate or provide feedback to peers.
 - Use a-number-of other age appropriate tools for learning.
- G5
 - Understand how to properly cite work using online citation tools.
 - Type fluently.
 - Send emails.
 - Use a-number-of other age appropriate tools for learning.
- G6
 - Analyze the credibility of online sources. Take a screenshot.

- Bookmark pages.
- Use keyboard shortcuts.
- Design a webpage.
- Communicate professionally and/or appropriately online.
- G7-G8
 - Organize emails.
 - Organize file storage.
 - Organize calendar events.
 - Use a spreadsheet.
 - Achieve design literacy. Demonstrate digital citizenship.

K-1 年级

打开和关闭设备。

登录和登出账号。

2 年级

会使用浏览器上网冲浪。

会使用关键词进行网络检索。

会使用文字编辑工具进行内容编辑。

3-4 年级

会使用工具打开照片，播放视频，进行调整。

会将文件进行分享并发表自己的看法及能收集同伴的评论。

5 年级

会使用相应工具标注资料索引来源。

熟练使用键盘进行输入。

会使用电子邮件。

6 年级

会分析线上信息的可信度，会进行截屏操作。

会对网页进行标签保存。

会使用键盘上的常用快捷键。

可以设计网页。

以合适地方式在网上进行专业的沟通交流。

7-8 年级

管理电子邮箱。

管理文档。

管理日程及事务。

使用电子表格。

学习设计素养，具备数码公民的素养。

Online Learning Etiquette Expectations

1. **Respect:** Proper etiquette should be followed during all virtual classroom conferences. Specifically, students should NOT use profanity, vulgar language, slang, inappropriate terms, or any derogatory/ offensive terms. Please be respectful when interacting with your instructors and fellow classmates. Do not act in a disrespectful manner with other classmates or faculty, due to the fact that you are online and not in the classroom.
2. You are expected to wear appropriate dress attire (spirit gear highly encouraged). Students will NOT be allowed to be shirtless or wear any head gear. (includes caps, beanies, doo-rags, bandanas, hats, etc.).
3. **Use of Technology:** During virtual class meetings, students will only be allowed to use their iPad/ laptop device, or school computers/ laptops. Students are not to have other tech devices out during any of the virtual classrooms, this includes cell phones (turn them off to avoid any conference interruptions), Apple watches, or any gaming devices. Please be respectful to your instructors and fellow classmates. (Access to social media is not allowed.)
4. **Background Noise:** Make sure that you are in a quiet environment, without any distracting backgrounds. Please avoid having any music, television, or other distracting noises that can be heard in the background. (Try to set up a library-type setting).
****MUTE OPTION:** During live Zoom or Dingtalk live stream all students are to select the “mute” option BEFORE entering the online virtual classroom. Please wait for the teacher’s instructions to select the “unmute” option.
5. Eating and drinking are not allowed during the virtual conferences.
6. **Be On Time/ Be Present and Proactive:** Students should be “on deck” at least 5 minutes prior to the start of the scheduled virtual conference. Also, when participating in the virtual classrooms, make sure that you engage in the discussions, ask and answer questions, and fully immerse yourself in the online learning experience. This will serve as very helpful training for your future college courses and even potential careers. Start your online etiquette training now!
7. **Cyberbullying will not be tolerated!** Please refrain from making any negative verbal comments or posting any negative or inappropriate comments towards anyone, including faculty and students.

8. Plagiarism/Academic Dishonesty: Students are to create and write their own work. Copying and pasting or words or screens verbatim will result in a plagiarism violation. Such violations will result in a grade of zero (for the plagiarized assignment or projects.)
9. Dismissal from Virtual Classroom: Students who are removed from a virtual classroom as a result of a disruption, inappropriate comment, or other violations of the digital citizenship policies will face disciplinary consequences. Such consequences may include, but are not limited to, a parent phone call, deduction of grade for that course, cancellation the chance to apply dual-enrollment program at Future Leadership Academy...

在线学习礼仪

1. 尊重：虚拟的学习空间是神圣的，应该遵循适当的礼节。具体来说，在这样一个圣洁之所，学生不应使用下流粗俗的言辞，也不能揶揄贬损或语出伤人。要尊重为你辛勤付出的教师和与你共同成长的同学们，无论在线下还是线上。
2. 学生应着适合身份的服饰进行线上学习。在在线学习期间，不许打赤膊，不许佩戴任何头饰（包括帽子、斗篷、头巾等。）
3. 技术的使用：在进行同步线上学习期间，学生只能使用被教师允许的个人平板电脑（笔记本电脑）或学校提供的相应设备。学生不可以不经教师允许，擅自使用自己的智能设备，包括手机、智能手表或任何游戏设备。请尊重你的老师和你的同学。不经老师允许，是不允许访问自己的社交媒体的。
4. 背景噪音：在进行线上学习的时候，确保你的周边环境是安静的。不要播放音乐、电视或其他有可能干扰你线上学习的设备。在使用在线学习平台进入虚拟学习空间（如 Zoom, Dingtalk, 百家云）时，请根据教师的要求“关闭”或者“打开”你的话筒。
5. 在进行在线学习时，禁止吃东西或喝饮料。
6. 准时出席，积极主动：学生应在课程开始前至少 5 分钟做好准备。当开始在线学习时，学生要积极参与讨论、提出并回答相应问题，全身心地投入在线学习之中。这个素养也会让你在未来的大学学习甚至职场生涯中受益匪浅。
7. 网络霸凌行为是被严格禁止的！在网络上请谨言慎行，不要针对任何人有不恭敬或不客观的评论，无论是对待教师还是你的同学，都要落落大方。
8. 剽窃或学术不端：学生抄袭别人的作品，或不注明出处就将别人的作品当做是自己的，都是性质非常恶劣的学术不端行为，相应任务或作业将被记零分。
9. 停课处理：学生在在线学习过程中，由于不当语言，干扰课堂，或其他与应具备的数码素养不符的出格行径，将有可能被教师驱逐出在线学习空间，或受到停课处理。其后可能会被约谈家长，成绩减分，取消线上学习或申请更高阶线上课程（如双学位项目）的机会。

FLA Line ACADEMIC INTEGRITY POLICY

PURPOSE

To maintain integrity within all FLA Line programs, it is imperative that student submissions of assignments and assessments be their own original work. This policy defines cheating and plagiarism and the consequences for students who are deemed to have engaged in cheating or plagiarism at any course in FLA Line.

CHEATING

At FLA Line **cheating** is defined as: Knowingly submitting the work of another individual and claiming the work as your own to gain an unfair advantage. When a student submits an exam or assignment, this signifies the desire to claim the content as the student's own original work. No other claim is needed. Cheating includes:

- Copying answers that were shared by other students either in person or online
- Use of computer/technology assisted online programs that result in work that is not your own
- Posting information online that results in other students using that work
- Collaboration between two or more students which results in the submitting of identical answers
- Any other form of copying answers from any other person or source

PLAGIARISM

At FLA Line **plagiarism** is defined as: The use of an author's work with a lack of acknowledgement of the source of that work, whether intentional or unintentional. Plagiarism includes:

- Work that was incorrectly cited
- Paraphrasing by simply changing the order of a few words
- Any other un-cited, falsified, or incorrectly cited work

- Including information directly from any book, course resource, periodical, website, atlas, or person without quotations and/or citations

在线学习学术诚信政策

目标

为了保障 FLA Line 所有项目及课程的诚信，至关重要的是确保学生提交的所有作业和测试都是他们的真实原创。这些政策界定了“作弊”与“剽窃”等学术不端行为的定义，并明确了这些行为将可能引发的后果。

作弊

在 FLA Line 项目及课程中。作弊被定义为：明知自己所提交的内容是从别人创造的，仍然想要投机取巧。当一个学生在提交自己的作业或者考试结果时，出现如下任何行为，都将被认定为作弊：

- 将别人的分享答案——无论在线上还是线下，抄写在自己的作业或答卷上。
- 使用网络或技术工具获取答案，而不是你自己思考的结果。
- 将你的答案分享给别的人来抄。
- 伙同别人或更多的人获取本应独立获得的结果。
- 任何从别人或者别的平台那里窃取答案的行为。

剽窃

在 FLA Line 项目及课程中。剽窃被定义为：无意或有意地将别人的原创观点或内容当做是自己的。以下行为，都将被认定为剽窃：

- 不正确地引用文献
- 复述别人的观点，仅简单改变一些基本的表述形式。
- 不注明文献出处，或错误地标注文献出处。
- 不注明出处就直接使用书籍、课程资源、期刊、网站、地图册或人物表述中的信息。

Prerequisite Knowledge and Competencies

Learning online is quite different from learning in a FLA classroom. Ask yourself the following questions and prepare as well as possible:

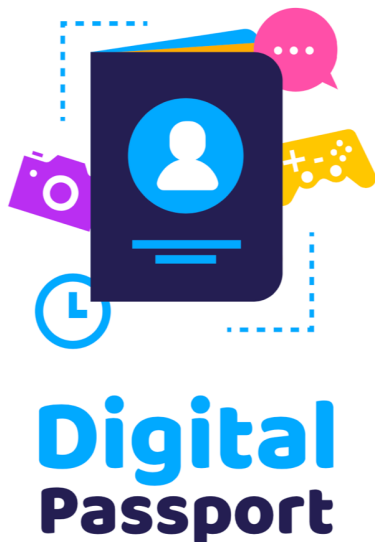
1. Am I self-motivated, self-disciplined and able to meet deadlines without close supervision?
2. Will I be able to devote at least 1 hour per week to engaging with this online learning course materials and completing assignments? (Your course may require more-or-less time, but you should budget for a minimum of 1 hour per week.)
3. Will I have regular access to a computer with a reliable Internet connection for extended periods of time at my home? Or, can I study this course at School?

预备知识及素养

在 FLA，线上学习和在传统的教室内学习是有着很大的差异的。问一下你自己以下的三个问题，尽可能好地去做准备：

1. 在没有人近距离的监管我时，我是不是也可以自我驱动地，自我约束地按时完成任务？
2. 我能在一周中至少找出一个小时的时间来学习这门在线学习课程吗？（根据每个学习者的不同，顺利修完这门课程的时间每周平均在 1 小时左右，或多或少，但你最好能做出每周 1 小时的预算来学习这门课程。）
3. 我家中的学习设备能否保障我这一小时的学习？或者，我可否申请在校修这门课程？

附录：家长参考



“数码护照”，家长，你值得拥有

想象一下，你要去往一个陌生的国度，那里的人们使用着你不熟悉的语言，有着独特的文化和生活风俗。在你到达之前，如果对这个陌生国度的细节了解的越多，那么在你到达之后，所产生的尴尬和手足无措也相应会少一些。如果这个要出远门的人是你的孩子——一个未成年人，作为家长，你真的完全放心让孩子不做任何准备，就只身踏入这陌生的国度吗？

“数码世界”针对大多数人家长来说，就是这样一个陌生国度——那里使用着网络语言，运行着程序也隐藏着病毒，后门软件和钓鱼网站荆棘丛生在隐秘的角落，网络诈骗、色情、暴力及暗网空间也许只与你的网购生活有着一“键”之隔。你对数码世界了解的足够全面和深入吗？如果你的孩子——一个未成年人踽踽独行在这个资源丰饶但又危机四伏的国度，你真的放心吗？

我相信各位家长一定会和我有共识：“安全第一”，应该是我们的孩子进入实体的陌生国度，抑或是虚拟的陌生国度的首要原则吧？怎样保障这首要原则呢？方法倒也简单：交流。

“交流”不是家长提问，孩子回答，而是双方坦诚沟通，你说说你的理解，我说说我的理解，这才叫交流。刚开始的时候，家长可以只是让孩子分享一下自己刚刚在网上的见闻，或者做了什么，然后针对具体内容聊开去，你一句，我一句，有的聊，就是好的交流。

我今天想要给家长和孩子们一起介绍的“数码护照”，就是力求从加强双方交流的角度，更好地保障孩子们在数码世界的安全。家长完全不需要成为 IT 专家或者是电脑高手，您需要的仅仅是 15 分钟的耐心，听我讲完。我会从“数码护照是什么？”，“数码护照什么时候用？”，“数码护照怎么做？”这些话题的分享中，为您们展示数码世界这个陌生国度中的一些细节，让每一个即将进入这个陌生国度的成年人和未成年人，都能更安全和更好地进行探索。

一、数码护照中是什么？

数码护照包含两个部分，一个部分由监护人及教师所持有，护照中关注的内容，是未成年人在数码世界中的活动细节。另一部分则由被监护的未成年人所持有，代表了未成年人期望自己在数码世界中所的愿望、感受、及兴趣。

未成年人对自己数码护照中的细节分享拥有权利。在数码护照的使用过程中，像实体护照一样，也需要进行不定期的更新，尤其是在未成年人对于数码世界的愿望、感受及兴趣出现变化的时候。比如，孩子想提高自己的电脑性能，用来更好地呈现制图效果。比如，孩子想要通过观看视频学习弹吉他。比如，孩子即将开始线上课程或项目的学习等等。随着孩子的成长，不断更新的数码护照，可以帮助在监护人和教师及孩子之间，建立起互信的桥梁。

二、数码护照什么时候用？

新学期的开始，家里刚刚买了新电脑；孩子拥有了自己的手机；孩子刚刚升级了自己的平板电脑；学校开展了新的线上学习项目；孩子学会了新的软件使用……这些数码设备或素养更新或提升之时，都是将数码护照进行讨论和更新升级的绝佳时机，跟着数码护照上的话题聊开去，在家长、孩子和教师之间，不断加强交流，了解和理解。

三、数码护照怎么用？

从孩子的视角观察，不断重复地和各种人尬聊，也是挺累的。有的时候，可能会让他们觉得很无聊，没话找话，浪费时间。有的时候，更严重的，有的孩子感到自己的隐私被侵犯了。曾有个 14 岁的女孩坦言：“所有人都想探知我的生活，我对他们无可奉告”——这是家长或教师在沟通上用力过猛所导致的。怎样才能避免尬聊，避免讯问式交流，避免侵犯孩子隐私呢？家长可以利用数码护照，进行有意义的交流。怎样才能让交流是有意义的？有意义交流的前提是——信任。

有的家长和孩子“交流”，就是一门心思地表述自己对孩子的用心良苦，口口声声说着想要帮助孩子，其实根本就是想要检查孩子的学业情况。善于沟通的家长，会尝试站在孩子的角度去想问题，比如，聊聊在数码世界，让孩子自己说说在网上喜欢玩什么？喜欢看什么？希望得到什么？担心些什么？等等。数码护照上的话题，会给家长和孩子具体的讨论方向，跟着上面的话题一个一个交流下来，会让孩子和家长加强彼此之间的理解。

在校内 7 年級的“在线学习”课上，每节上课之前，提前到达机房的学生，经过我的允许，是有机会玩一会“游戏”的。我常常感慨于这些提前 10 分钟到机房的学生们的专注度和持之以恒的态度。有的同学是气喘吁吁，汗流浹背地来到机房，精神高度集中地打开电脑……有的严谨守时，每次都同一时间进入机房，安安静静地沉浸其中……为了这 10 分钟，他们需要提前规划好自己的活动，安排好需做事务的顺序，计算好时间，更早地出发，驱动自己的肌肉和骨骼，在烈日炎炎下爬上 3 层楼……

计算机房的电脑都有统一的设置，是安装不了游戏软件的，孩子们兴致盎然全神贯注玩的，只是一些网页上的益智游戏，还有一些是我推荐给学生们游戏化学习平台——看起来像游戏，但想通关是需要做对数学题或者拼写正确英语单词的。对于有意义的学习来说，实现的前提是积极的情绪（emotion）和充足的动力（motivation）。凡事都需要先弄清楚了前提，才知道该从哪里入手。刚才我们说到，有意义交流的前提是“信任”，数码护照的使用，正是为了更好地在家长、教师和孩子之间培养信任的。

作为家长，在以常规的方法，经常性地和孩子交流数码护照上的话题的同时，还要有意识地去注意一类比较复杂的情况，就是当你观察到孩子的行为表现出现了较大的反常现象，比如：性格一直外向开朗的孩子突然变得少言寡语；比如：每个周末都要在网上泡好久，要被家长劝好多次才关电脑的孩子，突入连续几个周末碰都不碰电脑一下；再比如：当家长照例在睡前让孩子把手机放在客厅时，孩子断然拒绝了。这些反常的现象，要引起我们的注意，积极观察与孩子沟通，找到具体的原因，并在第一时间联系校内老师，为孩子提供相应的帮助。我刚刚说的这三个例子，分别是三个遭遇了网络暴力、网络霸凌和网恋的孩子的反常行为表现。

四、给家长在使用数码护照时的更多建议

1. 数码护照使用的艺术性

数码护照的使用初衷是培养孩子与成年人之间的彼此尊重和信任，使用的时候要因人而异，力求艺术性地培养彼此尊重和信任的土壤，而不是硬生生地把数码护照当做例行检查的报告。

2. 别轻易下结论

未成年人，更容易成为数码世界的受害者，在信息不充足的情况下，家长不要妄下结论，这有可能加深孩子的伤口。

3. 分享经验并学会示弱

成年人固然拥有更多的生活经验，但在数码世界中，成年人并非处处强过孩子。家长要学会示弱，有的时候家长可以让孩子教教自己怎么使用最新的软件，这样做，除了让孩子增长成就感，复习所学内容之外，还可以营造良好的信任关系。

4. 以身作则

家长如果不希望孩子在餐桌上老看手机，那么应该先把自己的手机从餐桌上拿走。家长如果希望孩子多看看书，多去户外运动，少看手机，那么家长自己，最好先把手机放在一边，开始阅读，开始户外运动。孩子的学习，更多的是依赖模仿，所以家长想让自己的孩子成为什么样的人，自己就努力成为那样的人，这就是给孩子的最好的家庭教育了。

5. 将挑战变为机遇

如果孩子拥有了能将挑战变成机遇的态度和能力，那么他就拥有了最好的生活态度和做事能力。家长可以有意识地帮助孩子去分析挑战背后的机遇是什么，怎样才能更好地转危为安？

6. 拥抱数码

数码时代浩浩汤汤奔涌而来，每一个人都被裹挟其中，无法逃脱，家长要积极地去拥抱数码，了解新的编程语言，学习新的软件平台，使用新的数码设备。你的积极主动，会带给孩子更多勇敢面对数码世界的正向激励。

7. 数码世界可能是个避难所

不要因为数码世界有危险，就简单粗暴地把孩子拦在数码世界之外，那样就把洗澡水和婴儿一块倒出去了。有些时候，孩子们在网上建立的社交网络会让他们感到更加安全和有归属感；也有些时候，孩子只有在数码世界，才呈现出他们真实的一面；还有些时候，数码世界可以帮助孩子们缓解压力，舒缓情绪，调整状态。

数码护照，对于即将在线上进行学习的学生，以及他们的家长和老师来说，都是一个非常有利的平台，也是每一个即将走入数码世界，进行知识采撷，见识增长，跨越时空的学习者的护身符。

Standards for Quality Online Courses of FLA (First Draft)

Standard A: Course Overview and Support

The overall design of the course is made clear to the learner at the beginning of the course.

The course materials include support services essential to learner and instructor success.

Course instructions articulate or link to relevant information and services.

A1 A course overview and syllabus are included in the online course.

A2 Minimum computer skills and digital literacy skills expected of the learner are clearly stated.*

A3 The instructor's biographical information and information on how to communicate with the instructor are provided to learners.

A4 Learner expectations and policies are clearly stated and readily accessible within the introductory material of the course.

A5 Minimum technology requirements for the course are clearly stated, and information on how to obtain the technologies is provided.*

A6 Grading policies and practices are clearly defined in accordance with course content learning expectations.

A7 The online course provides a clear description or link to the technical support offered and how to obtain it.*

A8 Learners are offered an orientation prior to the start of the online course.

Standard B: Content

The online course provides learners with various content options that promote their mastery of content and are aligned with state or national content standards.

B1 The online course objectives or competencies are measurable and clearly state what the learner will be able to demonstrate as a result of successfully completing the course.*

B2 The online course expectations are consistent with course-level objectives or competencies, are representative of the structure of the course, and are clearly stated.

B3 The online course content is aligned with accepted state and/or other accepted content standards, where applicable.*

B4 Digital literacy and communication skills are incorporated and taught as an integral part of the curriculum.*

B5 Supplemental learning resources and related instructional materials are available to support and enrich learning and are aligned to the specific content being delivered.*

B6 The online course content and supporting materials reflect a culturally diverse perspective that is free of bias.*

B7 The online course materials (e.g., textbooks) that support course content standards are accurate and current.

B8 The online course is free of adult content and avoids unnecessary advertisements.*

B9 Copyright and licensing status for any third-party content is appropriately cited and easily found.

B10 Documentation and other support materials are available to support effective online course facilitation.*

Standard C: Instructional Design

The online course incorporates instructional materials, activities, resources, and assessments that are aligned to standards, engage all learners, and support the achievement of academic goals.

C1 The online course design includes activities that guide learners toward promoting ownership of their learning and self-monitoring.

C2 The online course's content and learning activities promote the achievement of the stated learning objectives or competencies.

C3 The online course is organized by units and lessons that fall into a logical sequence.

C4 The online course content is appropriate to the reading level of the intended learners.*

C5 The online course design includes introductory assignments or activities to engage learners within the first week of the course.

C6 The online course provides learners with multiple learning paths as appropriate, based on learner needs, that engage learners in a variety of ways.

C7 The online course provides regular opportunities for learner-learner interaction.

C8 The online course design provides opportunities for learner-instructor interaction, including opportunities for regular feedback about learner progress.*

C9 Online course instructional materials and resources present content in an effective, engaging, and appropriate manner.*

Standard D: Learner Assessment

A variety of assessment strategies are used throughout the course geared toward learning and engagement and learners are provided with feedback on their progress.

D1 Learner assessments are linked to stated course, unit, or lesson-level objectives or competencies.

D2 Valid course assessments measure learner progress toward mastery of content.

D3 Assessment practices provide routine and varied opportunities for self-monitoring and reflection of learning.

D4 Assessment materials provide the learner with the flexibility to demonstrate mastery in a variety of ways.*

D5 Rubrics that clearly define expectations for varied levels of proficiency are created and shared with learners.*

Standard E: Accessibility and Usability

The course design reflects a commitment to accessibility so that all learners can access all content and activities and to usability so that all learners can easily navigate and interact with all course components. Online course materials, activities, and assessments are designed to ensure that all learners have access to the same information and are able to engage in the same interactions and within the same time frame.

E1 Online course navigation is logical, consistent, and efficient from the learner's point of view.*

E2 The online course design facilitates readability.*

E3 The online course provides accessible course materials and activities to meet the needs of diverse learners.*

E4 Course multimedia facilitate ease of use.*

E5 Vendor accessibility statements are provided for all technologies required in the course.*

Standard F: Technology

The technologies enabling the various course components facilitate active learning and do not impede the learning process.

F1 Educational tools ensure learner privacy and maintain confidentiality of learner information in accordance with local, state, and national laws for learner data.

F2 The online course tools support the learning objectives or competencies.*

F3 The online course provides options for the instructor to adapt learning activities to accommodate learners' needs and preferences.*

F4 The course allows instructors to control the release of content.*

F5 The course provides the necessary technical functionality to score and record assessments and calculate earned course points or grades.*

Standard G: Course Evaluation

The online course is evaluated regularly for effectiveness, using a variety of assessment strategies, and the findings are used as a basis for improvement. The course is kept up-to-date, both in content and in the application of new research on course design and technologies.

G1 The online course uses multiple methods and sources of input for assessing course effectiveness.

G2 The online course is reviewed to ensure that the course is current.

G3 The online course is updated on a continuous improvement cycle for effectiveness based on the findings from ongoing reviews.

FLA 在线课程质量标准（草稿）

标准 A: 课程介绍和课程准备

在课程开始前，明确课程的总体设计，教师需为学生提供必备的课程材料，清晰阐述相关课程信息。

- A1 在线课程应涵盖课程概述和教学大纲。
- A2 向学生明确学习课程所需的基本计算机操作相关技能。*
- A3 教师应向学生提供个人简要介绍，以及个人联系方式等信息。
- A4 在课程的介绍部分，教师应向学生明确课程学习的相关纪律要求及学习目标。
- A5 向学生阐明课程所需的基本的技术技能，并提供如何获得这些技术的信息。*
- A6 根据课程目标，明确评分政策和实施方案。
- A7 提供在线课程所需技术支持的清晰描述或链接，以及如何获得这些技术支持的方式。*
- A8 在线课程开展之前，向学生提供相关培训，进行课程情况介绍。

标准 B: 课程内容

在线课程须基于全国课程统一标准，为学生提供相关教学内容选择，以促进他们对知识的更好掌握。

- B1 在线课程应根据具体的知识学习目标和能力目标，通过合适的方式检测学生学习目标的完成情况。*
- B2 在线课程的目标设定应是基于课程内容本身而相应且一致设立的，课程目标中应明确阐述课程基本框架的主要构成部分。
- B3 在线课程的内容是根据课程目标制定的，应适用于现阶段的具体教学要求。例如，AP 课程的教学内容须符合 AP College Board 的课程标准。*
- B4 教学过程中，应综合使用数字信息交流和语言沟通交流等交流方式。*
- B5 教师应向学生提供补充学习资源和相关的教学材料，以此支持并丰富学生的学习内容。*
- B6 教师可以向学生提供多元的在线课程内容和相关学习材料。*
- B7 在线课程材料，如教科书等学习材料，须符合课程标准，内容具备精确性和前沿性。
- B8 在线课程内容不可出现任何污秽内容及广告宣传等。*
- B9 在线课程的教学材料须是正规的、授权的、合理合法的、易获得的。
- B10 向教师提供教学所需的辅助材料，保证课程的顺利开展。

标准 C: 教学设计

在线课程设计应面向全体学生，在基于课程标准的前提下，整合教学材料、活动、资源和评估，确保教学目标的实现。

C1 在线课程应设计促进学生自主学习和自我管理的教学活动。

C2 在线课程设计的内容和学习活动，应促进既定的学习目标或能力的实现。

C3 在线课程内容设计应符合逻辑顺序，并组织成单元和章节等不同等级的模块。

C4 在线课程内容应符合目标学习者的认知能力和阅读水平。*

C5 在课程开始的第一周，应设计有关于课程介绍的教学活动，以帮助学生尽快了解该课程，更好投入到课程学习中来。

C6 在线课程应根据学生的需要，为学生提供多种适合的学习途径和方式，使学生通过各种不同的方式参与其中。

C7 在线课程应定期提供学生彼此之间的互动机会。

C8 在线课程设计应提供学生与教师的互动机会，包括定期反馈学生的学习情况。*

C9 在线课程须以有效的、吸引人的、合适的方式呈现教学材料 and 内容。*

标准 D: 教学评估

在整个课程中，运用多种评估策略，并及时向学生提供反馈。

D1 教学评估应与既定课程教学目标、单元教学目标或章节教学目标相关联。

D2 课程应有效衡量学生对所学内容的熟练掌握程度。

D3 教学评估应促进学生的自我监督和反思。

D4 教学评估材料应从不同维度为学生提供其学习情况的反馈。*

D5 制定并公布评分标准，向学生说明是如何评定等级的。

标准 E: 可及性和实用性

在线课程的设计应遵循可及性的原则，所有的学生都具备可以访问所有内容或参加所有活动的权限；同时也要遵循实用性的原则，学生可以轻松浏览和获得所有的课程元素。在线课程材料、活动和评估的设计上，要确保所有的学生能在相同的时间内获得相同的信息并参与到相应的互动活动中。

E1 在线课程导航系统应符合学生的逻辑，具备一致性和有效性。*

E2 在线课程设计应具备易读性，便于学生阅读。*

E3 在线课程应提供丰富的课程材料和相关活动来满足不同学生的需求。*

E4 课程使用的多媒体工具应便于操作。*

E5 供应商应提供课程中使用的设备工具的使用技术说明。*

标准 F: 技术工具

在线课程使用的技术工具应能够促进学生自主式学习，而不应妨碍学习过程。

F1 技术工具应保护学生的隐私，符合国家及地方法律规定，不对外泄露学生的个人信息。

F2 在线课程工具应为实现教学目标和学习目标提供支持和保障。*

F3 在线课程应提供给教师依照学生需求和特点选择相应教学活动的权限。*

F4 在线课程应由教师控制课程进度。*

F5 在线课程应提供给教师必要的技术工具，以便进行评分、记录评估数据和计算成绩等。*

标准 G: 课程评估

使用多种评估策略，对在线课程进行定期评估，并根据评估结果进行改进。无论是课程内容、课程设计还是技术设备，都应该是与时俱进的。

G1 使用多种方法和途径来评估课程的有效性。

G2 对在线课程进行检查，确保课程的前瞻性。

G3 在线课程应根据评审的结果，不断进行改进，以提高有效性。

How to Assist Online Instructors in K-12 Education in China

Background and Significance of the Research

Carlner and Shank (2008) have summarized four key challenges of e-learning: Organizational Barriers, Pedagogical, Technical and Financial Issues. China is faced with most of these issues, together with some unique challenges (Y. Wang et al., 2018a). Teachers are vital component in education. Online teachers have a variety of roles they need to play, such as: evaluator, administrator, technologist, advisor/counselor, researcher, etc. and they should be equipped with multiple competencies (Baran et al., 2011). It is critical to prepare and support teachers for online teaching so that they know what to expect and how to establish their online teacher persona through online pedagogies, and also develop positive attitudes towards online teaching. By incorporating collaborative work groups, community building, and group discussions into professional development programs, and sustaining their continuity, teachers will have an opportunity to participate in communities of practice and transform their teaching by socially constructing their knowledge and practices (King, 2002).

The COVID-19 affected the whole world a lot. It was a test for the online education in different countries and districts. During the pandemic period, educators and students had to rely on online education to continue schoolings. The development of Online education in China has been constrained by a lot of limitations. Zhanyuan Du, Vice Minister of Education of China, has stressed that there are three key tasks for e-learning development in China: “teachers’ and students’ acknowledgement of e-learning, teachers’ capacity for integrating ICT with daily instructions, and production of sufficient quality resources so that teachers can focus on pedagogical design (中国教育信息化要解决三问题 - 信息化动态 - 中国教育信息化网, 2015).” While more teachers in China are equipped with the basic Information and Communication Technology (ICT) knowledge and skills and get more knowledge about e-

learning, the situation of China's online education might be better. Since ICT is the foundation of online education, teachers who have more abilities about ICT, who could understand the value and usability of online education, who might integrate ICT more in their daily instructions, and who have more possibilities to yield higher-quality online education production.

Problem Statement

This study aims to explore the experiences, suggestions and standards for assisting online instructors to present higher-quality online instructions drawing mostly from the USA, and introduces some useful strategies from institutes who have been endeavoring to establish high standard online education from all over the world to China's K-12 schools. With practice and comparison to make the most suitable one for China.

With collecting data from practices in some volunteer Chinese K-12 schools, the researcher wants to finish the first draft of Chinese K-12 online education standards and design some useful in-service or pre-service trainings for Chinese online instructors.

Purpose of the Study

The researcher will focus on the online education at China's K-12 school context among the different types of online education. The COVID-19 pandemic has made all stake holders at schools: parents, students, educators and administrators to realize the value of high quality of online education much better. There are a lot of startups and E-giant companies are seizing the profit of online education by inventing new Apps and platforms, and establishing online courses and commercial training programs to the K-12 students in China. There has been so much growth in this market that the government has issued a lot of regulations to control them(*Growth of China's Online Education Industry Spurs New Regulations*, 2020) . The fast

increase need of high-quality online education from learners are apparent. Yet the supportive standards for evaluating and establishing online education were limited in China. On the other hand. If the students can get high quality online education from their own school with their familiar educators and yield more learning outcomes, why they need to pay extra money out of school? The more expansive thing for the learners is not money but time.

The author could not find formal instructions to assist teachers about how to do high-quality online teaching in Chinese. However, there is a great deal of information in English. What kinds of online teaching standards, teaching strategies suggestions the Chinese online educators need currently? What kinds of online learning tips Chinese learners should be aware of to yield higher online learning outcomes? Is the information workable, effective and efficient? The mixed-methods will be used during the research.

Literature Review

Sources deemed most relevant to the topics were selected for further analysis; preference was made to recent (published during 1999-2020) articles, but older sources were included especially the classical ones which contain impressive points and suggestions. These articles were searched and collected through google scholar and University of Missouri Columbia Libraries, utilizing the following search tactics: K-12, Online Education, Online Teaching, Standards, etc.

Online Education Definition and its Development in China

E-learning, also known as online learning, digital learning or computer-based learning, can be defined as education provided on digital devices that support learning (Clark & Mayer, 2011). The use of Information and Communication Technology (ICT) in education

has given rise to diversified pedagogical models and methods, including networked learning, multimedia education, online and open education, and blended learning. In China, the term ‘ICT in Education’ is used interchangeably with the more general term ‘e-learning’ (Y. Wang et al., 2018b). With rapid economic development, China is becoming able to provide better infrastructure and other necessary conditions for schools (e.g. more high-quality computer labs, more learning soft wares and more online learning strategies), E-learning is believed to be a promising approach since it offers students ways to interact with experienced teachers or professors (Q. Wang et al., 2009).

In the first four years after 1996, the growth of online schools (at China) was fast, and the concepts of e-learning and online school were formulated. In the following four-year adjusting stage, the number of online schools decreased remarkably as some investors and managers of over-emphasized on financial gains but while ignoring Standards of web-based education. At the steady stage(2005-2009), managers and teachers have paid more attention to the educational role of online schools. They have developed better understanding and an improved model of cooperation. For example, one of the styles of cooperation is named “Two Instructors Cooperation Model” which means while one instructor teaching virtually, there is the other instructor (teaching assistant) working in the physical classroom to direct the students to dig more from the online instructions.

There are three models of running K12 online schools in China. Some online schools are run by a consortium of the government, or by an enterprise or a school alone. Most online schools in China are supported by private enterprises (Q. Wang et al., 2009). Online education, also known as virtual or cyber schooling, is a formal of distance education that uses the Internet and Computer technologies to connect teachers and students and deliver curriculum. Students may also communicate online with their classmates, students in other schools around the world and experts to whom they might otherwise not have access. Online

learning may take the form of a single course for a student who accesses that course while sitting in a physical school, or it may replace the physical school for most or all of a student's courses (Watson & Gemin, 2010).

K12 Online Education Market in China

In 1996, China's first primary and secondary education website (online school), 101 online school, was established. Four year later, the Beijing No.4 Online School was built. The education at this time was mainly based on academic education, and the form was mostly based on a single form such as text mail. The interactive form was not strong, mainly based on traditional education methods (Chen et al., 2009). Students and online teachers could only use text to do interactive activities. There were no other choices for the online learners in China who wanted to get higher quality K-12 online instructions. The reasonable online instructions should be more interactive which requires the online instructors to communicate with the learners closely and share the feedback of the learners' information with their parents frequently. Online instructors need to foster the online learners' enthusiasm and interest in learning. It is also the online instructors' duty to embed more technique tools and enhance their skills to improve their online teachings (Hu & Meyen, 2013).

Both Beijing 101 school and Beijing No.4 School are two of best high-schools in Beijing, China. (The author worked at Beijing No.4 School for ten years and has learnt that there were very few requirements for online instructors who taught at Beijing No.4 Online School.) In the past decade, online education market in China changed so fast. More and more companies like "Gen Shei Xue", "Hao Wei Lai", "New Oriental School", etc. have stepped into the K-12 training market to set very high standard and expectations of online education. The parents would prefer to pay more money to buy better online education from

these kinds of companies for they keep improving their online teaching strategies (Huang & Hong, 2017).

Quality of Online Teaching

To help China's K-12 online instructors improve is the first step to get high-quality K-12 online education. Without clear and specific goals, the online instructors will lose themselves and cannot improve their online instructions highly (Baran et al., 2011). There are a lot of mature online teaching standards and suggestions written in English world which might be meaningful for Chinese colleagues.

In 2010, an international quality standard for e-learning programs – “Open ECBCheck” – was officially released. ECBCheck is an accreditation and quality improvement scheme for e-learning programs which supports organizations in measuring the success of their programs and allows for continuous improvement through peer collaboration. It was developed through an innovative and participative process involving more than 40 international, regional and national capacity-development organizations (*Open ECBCheck – Quality Improvement Scheme for E-Learning Programmes | GIZ Global Campus 21, n.d.*).

In the standards (*E-Learning Methodologies - A Guide for Designing and Developing e-Learning Courses*, n.d., p. 14), the quality of an e-learning course is enhanced by: (1) Learner-centered content: E-learning curricula should be relevant and specific to learners' needs, roles and responsibilities in professional life. Skills, knowledge and information should be provided to this end. (2) Granularity: E-learning content should be segmented to facilitate assimilation of new knowledge and to allow flexible scheduling of time for learning. (3) Engaging content: Instructional methods and techniques should be used creatively to develop an engaging and motivating learning experience. (4) Interactivity:

Frequent learner interaction is needed to sustain attention and promote learning. (5)

Personalization: Self-paced courses should be customizable to reflect learners' interests and needs; in instructor-led courses, tutors and facilitators should be able to follow the learners' progress and performance individually.

The third edition of American National Standards for Quality Online Teaching purposely provided the K-12 online and blended learning community with an updated set of openly licensed standards to help evaluate and improve online courses, online teaching and online programs with the contribution from another two documents known collectively as the : *American National Standards for Quality Online Programs* and *American National Standards for Quality Online Courses* (Powell et al., n.d. P5). The set of standards served to inform the team, allowing them to make community and research supported updates. Subsequently, author took time to evaluate each standard and found they met the following criteria: measurable, valid, complete, relevant, and specific. Chinese online instructors can check the standards with clear definitions and explanations with examples to transfer to their online teaching actions.

Besides the formal standards which can help online instructors clarify their to-do lists about how to provide appropriate online instructions, the suggestions from some institutes are useful to bring more insights to improve online education for K-12 online instructors, especially during the COVID-19 pandemic spread period. The Danielson Group Remote Teaching Guide (*Danielson Group Remote Teaching Guide.Pdf*, n.d.) is one of them. Each academic year, the subject teachers in the author' school will provide at least two class periods to be observed by the members in Academic Department to show their teaching abilities which we name them formal observations. The Academic Department members will use the Framework (Danielson, 2014) for teaching from the Danielson group for assessing subject teachers' formal observations. The Remote Teaching guide is reflected in Framework

for Teaching which shared eight suggestions to online instructors from knowing and valuing the online learners to build responsive learning environment, then to engaging students in learning. The online instructors will find more valuable strategies and tips to miss overwhelming when they conduct online instruction if they delve into deeper with reading and practice the suggestions in the guide.

Trainings for Enhancing Instructors' Online Teaching Competencies

As online learning grows in K-12, the need to prepare quality online instructors increases (Borup & Evmenova, 2019). There are a lot of barriers the quality online K-12 instructors need to learn to cross. The barriers between the good online K-12 classroom and low efficiency which were listed two decades ago still affect online instructors. The barriers are: Academic, Fiscal, Geographic, Governance, Labor-Management, Legal, Student support, Technical, Cultural (Berge & Mrozowski, 1999). If the teachers did not learn how to face to the barriers when they were in the college, they may get some in-service professional development (PD) programs to help them add this part of competencies. If the PD programs are held fluently, the learners may improve their online teaching skills and knowledge (first-order barriers to change) and nurturing positive attitudes and dispositions (second-order barriers to change) (Borup & Evmenova, 2019). The online PD itself is a good model to show the learners about what is a good online course you need to learn to conduct. There are a lot of difference between face-to-face teaching and online teaching. Barbour (2012) found that the different competencies were required to deliver high quality online teaching. Even the experienced face-to-face teachers might fail to present quality online instructions. The effective PD program will deliver content and assignment proved effective at increasing faculty members' knowledge and skills, but it was the course delivery and the opportunity to

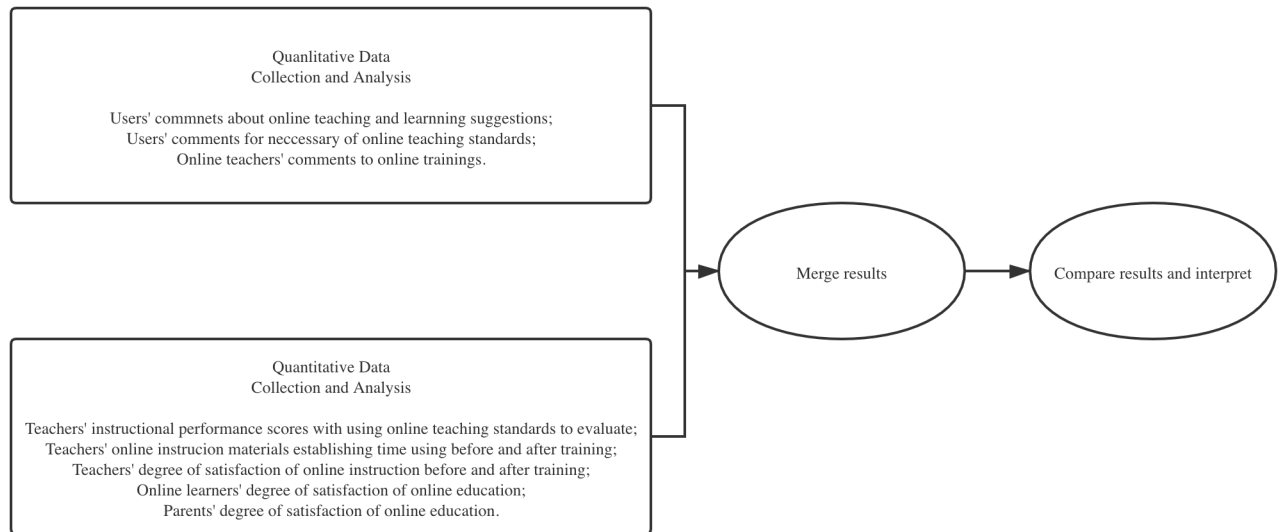
learn as an online student that appeared to most impact faculty members' attitudes and perceptions of what was possible in online learning environments. In other words, the method was just as important as the message. When designing professional development courses, universities (or other departments) not only need to consider what will be learned but how it will be learned. If courses do not model effective online instruction, they run the risk of increasing faculty members' skills without improving their practice (Borup & Evmenova, 2019). There are some successful PDs like Borup and Evmenonva's PD (2019) which covers the following topics: (1) course design and development, (2) assessment and feedback, (3) student collaboration, (4) discussions, and (5) presence and support.

Methodology

- Mixed-Method

The mixed-methods will be used. While conducting a bibliometrics focus on online teaching, hybrid teaching, online education standards, etc. The information will be concluded and compared to be selected as suggestions for assisting Chinese K-12 online teachers in their trainings and in-service instructions. Then, some questionnaires will be distributed to online educators, learners and parents to get their feedback about online instructions. The data will be used by qualitative and quantitative methods to test which suggestions or standards will be useful to the online instruction stake holders.

- Research Model



- Brief rationale for the selected approach

With the qualitative and quantitative research, the researcher can collect more divisions of feedbacks about online instructions from online teachers, learners and parents. The aims of the research are figuring out the most reasonable and workable assistance to Chinese K-12 online instructors. We hope to stand on the giant's shoulder and face to the reality of China's K-12 online education to compose two documents: *Chinese Online Instruction Standards*, and *Chinese Online Instruction Suggestions*, besides that, we will develop PD programs to assist Chinese K-12 online instructors. We wish they are reasonable and meet China's online instructors' expectations. Due to the different cultural and historic backgrounds in China and other countries or districts, the experiences from others must be improved to be embedded in Chinese education context. That will be the researcher's following research aims.

Variables

Independent variables: online teaching standards with using or not; online teaching suggestions with delivering or not; Whether took part in the PD for assisting online instructors developed by researcher.

Dependent variables: Online teachers' instructional performance scores with using online teaching standards to evaluate; Teachers' online instruction materials establishing time using before and after training; Teachers' degree of satisfaction of online instruction before

and after training; Online learners' degree of satisfaction of online education; Parents' degree of satisfaction with online education.

Sample

170 online learners from primary school, secondary school and high school.

50 online teachers from Future Leadership Academy (a private K-12 school).

100 college students who want to be teachers after graduation at Beijing Normal University.

100 in-service teachers in China K-12 schools.

100 parents whose kids are having online courses.

Data Collection

Qualitative data: Survey, interviews

Quantitative data: Survey, formal observations, data record on learning management system, interviews

Ethical Considerations

Students and parents' privacy protection. The data from the students and parents will be ONLY used for research and will not be open to others without erasing the names of the students and parents.

Data Analysis

Correlation Analysis using SPSS

Timeline

February, 2021. Preparation period:

In the coming school-wide professional development program, the research proposal will be informed.

February, 2021. Transition period:

the online instructors will be required to having online teaching trainings. The suggestions and strategies will be shared with them as well.

March, 2021. Orientation period:

1. The online learners and parents will be delivered online education orientation with introducing more details of online courses and suggestions for online learnings.
2. The online instructors will be directed to have online trainings with sharing more online teaching standards.

April-June 2021. Formal online instructions conduction

1. Data collection.
2. Survey
3. Interviews to teachers, students and parents.

July 2021. Data analysis and reaching a conclusion

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如何辅助中国 K-12 教师实施在线教育

研究背景

Carliner and Shank (2008) 总结了针对在线教育的四个关键性挑战：组织壁垒、教学策略、技术保障及资金支持。中国在线教育需要应对的挑战除了这四个之外，还有一些独特的阻碍(Y. Wang et al., 2018a)。教师是教育重要的组成部分。实施线上教育的教师，需要扮演很多角色：评估者、管理者、技术员、咨询顾问、研究者……等等，并且，他们应具备多方面的素养(Baran et al., 2011)。支持教师进行线上教学和帮助教师做好线上教学的相关准备，就变成了非常重要的事情，因为这些准备和支持可以让教师们明确他们进行在线教学时可能会发生什么事；怎样通过在线教学策略塑造自己的线上教师角色；以及怎样以积极的视角看待在线教学。通过持续性地在职业培训项目中开展小组合作，社群建设，组内讨论，教师们将有机会通过对他们自己的知识和经验进行社会性建构的方式来参与到社群实践中，并转变他们自己的教学(King, 2002)。

COVID-19 疫情对整个世界的影 响是巨大的。同时，它对于世界上不同的国家和地区 的线上教育来说，都是一次考验。在疫情期间，教育者和学生不得不依赖线上教育持续教和学。中国的在线教育发展被很多因素所限制。中国教育部副部长杜占元对中国教育信息化下一步将着力解决三个问题罗列为：“一是如何进一步提高学生教师对信息化的认同度；二是如何进一步提升教师运用信息技术开展课堂教学的能力，使信息技术更加自然地嵌入到教学的全过程；三是如何发挥市场的作用，为教师提供更加便捷实用的资源，使教师研究信息化教学运用到课堂设置和教学方法上”(中国教育信息化要解决三问题 - 信息化动态 - 中国教育信息网, 2015)。当越来越多的教师能够具备基本的信息化教学知识和技术时，中国的在线教学将变得更好。因为信息化教学是

在线教学的基础，当教师具备了更强的信息化教学能力时，他们才更能懂得线上教学的价值和用处，同时，教师在他们的日常教学中使用信息化教学的可能性，及他们能够产出更高质量的线上教学成果的可能性，才有可能更高。

问题描述

这个研究旨在探索全世界（以美国为主）的在线教学的标准，教学建议，经验案例等资源，寻找并制定最适合辅助中国 K-12 学校教师实施在线教育的方案，并将全球致力于高质量线上教育研究机构制定的在线教育标准介绍给中国的 K-12 学校，通过实践和比较制定最适合中国的在线教育标准。

根据在中国的实验组 K-12 学校收集到的数据，研究者力求完成《中国 K-12 在线教育标准》的草稿，并且设计行之有效的中国在线教师“在职”或“职前”培训项目。

研究目的

研究者将专注于在中国的 K-12 学校内的不同形式的在线教育。COVID-19 疫情让 K-12 教育中的所有利益相关者：家长、学生、管理者及教学者都更加认识到了高质量线上教学的价值。大量的创业公司和互联网巨头却通过开发新的软件和平台，搭建在线课程，组织针对学生的商业培训或补课活动，从在线教育中攫取利润。这个市场的增速太快，以至于政府不得不出台相应的政策对商业性的线上教育进行规划与管控 (*Growth of China's Online Education Industry Spurs New Regulations*, 2020)。学习者对于高质量的在线教育产品的强烈需求昭然若揭。然而在中国却找不到有支持性的在线教育评估标准或在线教学实施标准。如果学生可以在自己的学校，从他们熟悉的老师那

里获得高质量的在线教育，并产出更高的学习成果，为什么还要出去多花一份钱呢？学生们更贵的花销不是钱，而是时间。

笔者在中文文献中找不到辅助 K-12 学校教师进行高质量线上教育的正式支持文档。但在英文文献中有大量的参考资料。哪种在线教育标准和在线教学策略最能满足目前中国 K-12 学校教师们的需求？中国的 K-12 教育者们应该意识到什么问题，在他们力争产出更高的在线教学效果时？这些信息有用吗？有效吗？高效吗？笔者将通过混合式研究方法进行探索。

文献综述

与研究主题最相关的文献被检索用于更深入地分析，根据发表时间（1999-2000）的先后，优先选择最新发表的文献，但是那些阐述了经典观点和建议的老文献也在文献综述的考虑之内。文献检索利用到的数据库为 Google Scholar 和密苏里大学图书馆数据库，检索使用的关键词为：K-12, Online Education, Online Teaching, Standards, 等等。

在线教育的定义及其在中国的发展

电化学习（E-learning），又称为在线学习（Online Learning）、信息化学习（Digital Learning）或计算机辅助学习（Computer-based Learning），可以被定义为通过数码设备辅助学习，从而为学习者提供的一种教育形式(Clark & Mayer, 2011)。信息通讯技术（Information and Communication Technology, ICT）在教育中的运用催生出了多样化的教学策略及方法，包括：网络式学习（Networked Learning）、多媒体教育（Multimedia Education），在线教育（Online Education），开放式教育（Open

Education) 和混合式教育 (Blended Education)。在中国, “教育信息化”基本等同于“电化学习”(Y. Wang et al., 2018b)。随着中国经济的高速发展, 中国正在为学校提供越来越优质的基础设施, 及越来越多的学校发展的其他必要条件(比如: 更高质量的计算机教室, 更多的学习软件, 更多的线上学习策略), 电化学习因为可以为学习者提供与优秀的教师或教授互动的可能性, 其发展在中国一直被寄予很多的期待(Q. Wang et al., 2009)。

自 1996 年开始的四年间, (中国的) 网校的增长速度很快, 有关电化学习和网校的概念也逐形成。在接下来的四年(2000-2004)网络教育发展进入到调整阶段 (adjusting stage), 投资者和经营者不顾网络教育质量标准, 对资金回报有过高的预估, 他们的投资令网校的数量急剧增长。接下来网校发展进入到稳定发展阶段(2005-2009), 网校经营者和教育者在厘清网校在教育中“到底扮演什么角色”上施加了更多的关注。他们对于网络教育有个更好的理解, 也改进了网络教育和实体教育的合作模式。比如, 双师课堂模式 (Two Instructors Cooperation Model), 即在线上教师进行教学的同时, 另外一位在实体教室中的教师(助教)会面对面地帮助和指导教室内的学习者获取更多的学习成果。

中国的网校有三种组建模式: 政府组建, 公司组建, 学校组建。大部分的中国网校都是由公司组建的(Q. Wang et al., 2009)。在线教育 (Online Education, 在英文中也可以写为 Virtual Schooling 或 Cyber Schooling) 是指运用计算机和互联网实现远程连接教师和学生, 对学生提供正式课程教学的教育。学生可以在线上与自己本校的同学交流, 也可以和全世界各地的学习者交流, 也可以向世界各地的不同领域的专家请教——这在实体学校中往往难以实现。线上教育的实施可以是尽让实体学校内的

学生们在网上共同上一门课程，也可以让学生完全依靠网络学习所有的校内课程 (Watson & Gemin, 2010)。

中国 K-12 在线教市场

1996 年，中国第一个网校，101 中学在线建立。4 年后，北京 4 中网校建立。这个阶段的网络教育主要集中在学科教育，其教学形式也更主要依赖于文本形式。教学中的交互形式并不是很强，教师主要以讲授式为主(Chen et al., 2009)。学生和在线教师之间，仅可以通过文本形式进行互动。彼时，中国的线上学习者没有更多更优质在线教学资源的选项。合理的线上教学是需要线上教师和学生进行更紧密的互动的，以此教师可以知晓学习者的需求，同时可以将未成年学习者的学习状态及时地与其监护人进行频繁的同步。在线教师需要培养线上学习者的学习热情和兴趣，同时，在线教师也有责任运用更多的技术工具来改进自己的在线教学质量(Hu & Meyen, 2013)。

北京 101 中学及北京 4 中皆为中国北京最好的高中。（笔者曾在北京 4 中工作过 10 年，根据他的观察，北京 4 中网校对于在线教师的教学并没有过多的要求。）在过去 10 年间，中国的在线教育市场变化迅猛。越来越多的公司开始涉足 K-12 培训市场，比如：“跟谁学”，“好未来”，“新东方”等，这些公司对于自己的在线教学产品有非常高的期待和标准。家长们越来越倾向于选择这些持续改进自己的在线教学策略的公司的在线教育产品，哪怕是要他们付出更多的学费(Huang & Hong, 2017)。

在线教学的质量

获取中国高质量 K-12 在线教育的第一步是帮助在线教师有所提升。缺少明确清晰的目标，在线教师可能会迷失自我，无法高质量地改进他们的在线教学质量(Baran et al., 2011)。在英文文献中有很多成熟的在线教学标准及建议，它们或许会对中国的在线教育者们有指导意义。

2010 年，一个国际在线学习质量标准项目 Open ECBCheck (开放式电化学习能力检测) 发布。Open ECBCheck 是一个经过认证的可以有效提高电化学习项目的改进方案，它可以用于支持组织对所进行项目是否成功进行评测，并通过同行协作持续改进相应项目。这个国际项目基于分布在 40 多个不同国家或地区能力发展组织的参与与创新 (*Open ECBCheck – Quality Improvement Scheme for E-Learning Programmes | GIZ Global Campus 21, n.d.*)。

在这个项目中(*E-Learning Methodologies - A Guide for Designing and Developing e-Learning Courses, n.d., p. 14*)，指出优质的电化在线教育课程应该突显以下四个方面的特点：（1）以学习者为中心：在线教育课程应该明确又清晰地指向学习者的需求、身份和他们的具体职业（或相应的学业阶段）。技术、知识和信息应得到有效地授受。

（2）课节设置有规划：在线教育内容应该根据学习者的时间进行有弹性及有缓冲地截取为不同的课节来循序渐进地学习。（3）代入感：在线教育者要具有创意性地运用教学方法和技术来设计具有代入感的在线教学内容，激发学生沉浸在学习中。（4）交互性：与学习者频繁地沟通交流是推动在线学习，保持学习注意力的重要方法。（5）个性化：自学课程的设置要尽可能地满足学习者的学习兴趣和需求；由在线教师主导的在线教学则需要关注每一个学习者的学习进度和学业表现。

第三版《美国国家高质量在线教育标准》 (*American National Standards for Quality Online Teaching*) 旨在为美国的 K-12 学校在线教育及混合式教育社群提供一整套公开的官方的标准，来帮助评估和改进在线课程，在线教学和在线项目，这一

套“三标准”的另外两个标准也另有专门文件列出，分别是《美国国家高质量在线项目标准》(*American National Standards for Quality Online Programs*)及《美国国家高质量在线课程标准》(*American National Standards for Quality Online Courses*) (Powell et al., n.d. P5)。这一套标准可供教育者们参考及根据实际情况进行改进。笔者对这些标准进行了评估，发现它们满足如下五个标准：可测量、可操作、全面、清晰、精准。中国的在线教师们可以通过查看相应的标准及其给出的距离说明来指导自己的线上教学。

除了官方正式的标准之外，也有很多建议类的资料，也可供中国的在线教师将他们作为行动指南来一步一步地完善自己的在线教学，一些参考资料为在线教师提供了丰富的建议和帮助信息，特别是在 COVID-19 疫情爆发期间，这样的支持资料数不胜数。其中之一就是《Danielson 远程教学指导》(*Danielson Group Remote Teaching Guide. Pdf*, n.d.)。每学年，笔者所在学校的学科教师们需要向学术部提供至少两节评估课，在评估课上，学术部成员评测学科教师的教学能力并给出相应的等级。我校学术部成员使用的观测量表是《Danielson 教学框架》(Danielson, 2014)。《Danielson 远程教学指导》与《Danielson 教学框架》在内容上有很多呼应之处，前者为在线教师分享了 8 个建议：从了解和评价在线学习者到构建便于反馈回应学习者的学习环境，再到让学生参与学习。在线教师如果充分阅读并践行《Danielson 远程教学指导》，将会发现更多有价值的策略和提醒，来避免在他们进行线上教学时手忙脚乱。

在线教师培训

在 K-12 学校在线学习增长之时，也就催生了对高质量在线教师的需求(Borup & Evmenova, 2019)。在成为优秀的在线教师的成长道路上，有很多的障碍需要去跨越。

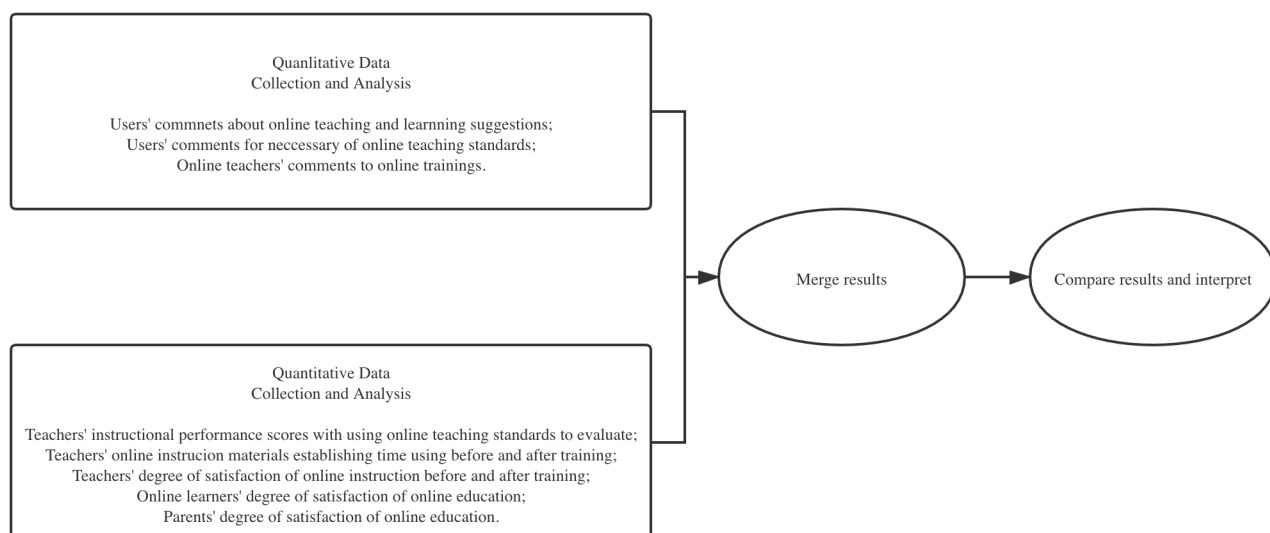
20年前, Berge & Mrozowski(1999) 就在一篇文章中列出了高效在线教师和低效在线教师之间的差距, 至今仍对我们有参考意义。这篇文章发现在如下几个方面, 会明显限制一个在线教师走向优秀: 学术水准, 财政支持, 地理位置, 管理规范, 劳务管理, 合乎法律, 技术强大, 文化底蕴。如果教师们在走上工作岗位之前, 并没有对如何面对上面提到的这些障碍有所准备, 他们也可能通过在职期间的职业发展项目弥补一些相关素养。如果这些职业发展活动经常组织, 进修的教师们可以改进他们的在线教学技术及知识(一阶障碍被跨越)进而, 他们的积极态度及性情也会被影响和塑造(二阶障碍被跨越)(Borup & Evmenova, 2019)。在线职业培训本身就是一个优秀在线课程的范例, 可以让参加进行的老师看到一个在线课程应该有的样子。面对面式的传统教学和在线教学之间有着很多不同点。Barbour (2012) 发现, 要想呈现高质量的在线教学效果, 在线教师所需要具备的素养和传统教师是不一样的。即使是经验丰富的传统教师也可能无法成功上好一节在线课程。在职业培训项目中, 培训组织者力求为教员工提供那些在提高受训者的知识和技术方面行之有效的培训内容和任务, 但是在线学习者对于在线学习环境的态度及感知程度, 似乎受到在线学习者具体接受到的那些在线学习机会和及在线学习过程的体验影响最大。换句话说就是, 在在线培训过程中, 方法与信息同样重要。当职业培训组织方在设计在线培训项目时, 不仅需要考虑在线培训“学什么”, 还要考虑“怎么学”的问题。假若在线培训项目采用的在线教学模式不得法, 则不仅费时劳心, 还可能适得其反(Borup & Evmenova, 2019)。我们发现比较成功的在线教师培训职业培训项目, 如 Borup and Evmenonva's PD (2019), 其列出的主题如下: (1) 课程设计及搭建 (2) 评估与反馈 (3) 学习者合作 (4) 讨论 (5) 参与及支持

研究方法

- 混合式研究法

本研究将采用混合式研究法。在文献检索过程中，使用 Online Education（在线教育），Hybrid Teaching（混合式教育），Online Education Standards（在线教育标准）等关键词进行文献梳理。梳理后的信息将通过总结和比对有选择地以建议的形式为中国 K-12 学校的在线教师们提供职前及在职培训。接下来，研究者将通过调查问卷，从在线教师、在线学习者、未成年在线学习者的监护人群体中收集对于在线教学的反馈。反馈得到的信息，将被用于质性和量化检测，最后整理出对于在线教育实施过程中，所有利益相关者的有效建议和标准。

- 研究流程



- 研究方法的基本原理

通过质性和量化研究，研究者能够从在线教育的学习者、教学者、及未成年在线学习者的家长的角度得到对于在线教学的反馈。研究的宗旨是要为中国 K-12 学校在线教育者们找到最合理最有效的辅助。我们希望站在巨人的肩膀上，根据中国 K-12 在线教学的现实来编制适用于中国 K-12 教育者的《中国在线教学标准》和《中国在线教学建议》，同时，我们期望设计可以有效辅助中国 K-12 在线教师的培训项目，期待它们

可以满足中国 K-12 在线教育工作者们的期待。鉴于中国的情况与文献借鉴国家或地区有很多文化及历史背景上的差异，我们的经验和成果有很多可能会“水土不服”。它们也将成为研究者接下来的研究关注点。

变量

自变量：《中国在线教学标准》（下称《标准》）使用与否；《中国在线教学建议》（下称《建议》）使用与否；在线教师是否参与过研究者研制的在线教师培训项目。

因变量：使用《标准》和《建议》的在线教师的在线教学能力表现分数；在使用《标准》和《建议》前后教师在线教学材料准备时间的变化；在线教师在参与在线教师培训项目前后对于在线教学的满意程度；在线学习者对于在线教育的满意程度；未成年在线学习者家长对于在线教育的满意程度。

样本

170 位来自小学、初中或高中的未成年在线学习者。

50 位未来领导力学校（私立 K-12 学校）的在线教师。

100 位北京师范大学师范生。

100 位中国 K-12 学校的在职教师。

100 位未成年在线学习者的家长。

数据收集

质性数据：调查，采访

量化数据：调查，评估课，教学管理系统上的数据记录，采访

伦理考量

未成年学习者及其家长的隐私将得到保护。他们的数据将只用于本研究，在发表或展示给其他人时，学生及家长的姓名将被隐去。

数据分析

相关度分析时将使用 SPSS 统计软件。

研究时间轴

2021 年 2 月，筹备阶段：在未来领导力全校教师进行职业发展培训时，研究者将分享此研究提案的相关信息。

2021 年 2 月，转化阶段：志愿实施在线教学的教师将参加“在线教学辅助培训项目”，《标准》和《建议》将作为培训材料分享给志愿教师们。

2021 年 3 月，导向阶段：

1. 在线学习者和其家长们将参加线上学习说明会，被接收到在线学习课程及建议方面的信息和说明。
2. 在线教师将被引导参与更多的培训并加强对于《标准》和《建议》的学习。

2021 年 4 月-6 月，正式在线教学项目实施阶段

1. 数据收集
2. 调查
3. 采访教师、学生及家长。

2021 年 7 月，数据分析，形成结论。

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