How Dutch Hybrid Learning Environments Can Suit Students in New York City Public Schools

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Abstract

Through interviews and observations at Fontys University of Applied Sciences, I gained knowledge about how schools applied hybrid learning to teach students practical applications of their desired major or minor. The operational use of the term hybrid learning for this research is the combination of school-based and workplace learning arrangements. For any student who struggles, interventions are provided to best serve their needs and increase motivation. Based on research, interviews, and observations, my plan is to pilot a hybrid learning program in New York City that aligns with the New York State regents requirements for a high school diploma and that will serve as a model for other schools within the district as well as city-wide.

Keywords: Hybrid learning, Special needs, Interventions, Career Development, Integrated Learning.

Focus of Inquiry:

How can hybrid learning environments be optimized to suit students in NYC public schools?

- What skills are needed for the students to interact with the professionals they encounter in hybrid learning?
- What interventions are used to support students?
- How is student motivation whether intrinsic or extrinsic affected by hybrid learning?
- What impact do teachers have on motivation?

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Description of Context:

As a Math, Science, and Special Needs educator with the NYC Department of Education as well as an Adjunct Lecturer and Coach, I have spent the last 13 years meeting the needs of individual learners within the classroom while prioritizing collaboration as well as inclusion. Yet, what keeps me up at night is how limited I feel with the ability to expose students to real-world applications of the concepts learned in school. I want my students to not only be college-ready, but career-ready. In the Winter of 2021, during the corona-19 lockdown, I started my application for the Fulbright Distinguished Awards in Teaching grant. Conducting research in the Netherlands would be a welcome challenge; more importantly, I knew that a new, unresearched perspective would enable me to build on my knowledge/repertoire of teaching

skills and strategies for adolescents with special needs and other students who typically struggle.

With the Fulbright DA Program in the Netherlands, I have been researching how hybrid learning environments are used as a tool to increase school attendance rate, decrease youth unemployment rate, and give opportunities to students upon graduation. According to The National Center on Education and Economy, 92% of the youth in the Netherlands are in education, employment, or training compared with 85% of the youth in the United States. For students with neurodiverse needs, the unemployment rate is only 16% compared to the U.S at 25%. For neurodiverse students in the Netherlands, they have the option from as early as 12 years old to embark on an educational path that increases their chances of having career opportunities by 36% (Source: OECD). From what I have observed in the Netherlands, a students' mixture of theoretical with practical application of the content material along with support from their school empowers them with the skills needed for employment upon graduation.

Fulbright partnered me with Fontys University whose mission is "to provide inspiring, challenging and outstanding higher vocational education and to conduct practical research that is truly meaningful to society." By conducting my research with Fontys, the largest university of applied sciences in the south of the Netherlands, I had the opportunity of seeing how students ages 16 and older learned and were supported throughout hybrid learning. Lecturer Dr. Miranda Snoeren M.A.P, Researcher Maria Custors M.W.C and Consultant Dimphy Hooimaijers D.B.J played a valuable role in guiding my inquiry process by suggesting articles on various theories and connecting me to over 20 professors, councilors, students, and researchers who openly invited me to observe and question their roles within education. Dr. Nadira Saab, a professor at Leiden University, also helped guide my research.

Method

Interviews and Observations
The interviews and observations were conducted in person. Prior to each interview, participants were either notified by myself or by Fontys the premise of my research project. The average interview or observation time was between 1.5-2 hours. Through one-on-one conversations, I used open-ended questions to probe for stories. When the participants shared their experiences, I was better able to uncover the strengths and needs of a school offering hybrid learning. The data has been organized by group id, participant, key quotes as well as notes.

While I have organized a series of notes and quotes by participant into a separate table, the key quotes that stood out to me are:

"There are three basic needs of motivation: autonomy, competence, and a sense of belonging or relatedness." - Program Founder/Director
"There's a difference between autonomy and complexity." - Lecturer
"Students are assessed on either how they solve a problem or on the opportunities they identify based on trend analysis and present opportunities." - Lecturer
"There would be 5 (of the 30) students who would especially need skill support [in any

class].” - Counselor/Former Lecturer
“We take drop-outs.” - Program Lead vo/vbo
“There is a program to help students find their agency. It is designed for everybody.” - Coach

Group	Participant (first initial)	Role
1	R	Consultant/Marketer secondary schools
1	B	Consultant/Marketer primary schools
1	E	Researcher/Lecturer (psychology)
1	S	Finance
2	M	Program Creator/Director
2	R	Autism Ambassee
2	T	Career Coach (volunteer)
2	A	Former Student Participant
3	R	Councilor/Former Lecturer
4	J	Technology Support
5	E	Founder/Director
5	B	Education Designer/Coach
5	C	Software Engineer/Coach
6	D	Inclusion & Equity Coach
6	E	Inclusion & Equity Coach
7	C	Lecturer
7	K	Lecturer
8	J	Founder/Director
8a	S	Education Designer & Program Lead vo/mbo
8b	L	Lecturer/Researcher
8b	I	Lecturer/Program Developer
8b	V	Researcher
9	M	Researcher

9	M	Lecturer

Department Key:

1. Studysuccess
2. Student Plus
3. Dienst SV
4. Technology Center
5. Open Education
6. Equity & Inclusion Coaches
7. International Business
8. Pulsed (observations and interviews):
    a. Empower vo/mbo
    b. Embrace Tech partnership with Research Group on Diversity & Inclusion
9. Professional Workplaces

Resources

I referred to theoretical research that focused on motivation within hybrid learning environments to inform my interview questions and observations.

Self-Determination Theory:

Intrinsic motivation is the act of doing something creative and enjoyable while extrinsic motivation is the act of performing an act separate from the goal that one desires.

In Self-Determination Theory (Ryan & Deci 2000), it is noted that given the structure of schooling, teachers are left to navigate the extrinsic motivation of students in the classroom. According to the authors, "The more students were externally regulated the less they showed interest, value, or effort, and the more they indicated a tendency to blame others, such as the teacher, for negative outcomes."

When observing classrooms and conducting interviews, I focused on the areas of extrinsic motivation that had the potential to become intrinsic motivation.

- Introjected regulation - when students act in order to have a feeling of self-worth. If the only motivation is to maintain high grades, then there is an expenditure of energy at the risk of anxiety and lack of coping when faced with failure.
- Identification regulation - when students work with an extrinsic goal because it leads to the attainment of an intrinsic goal. For example, a student will work hard at the sciences in school knowing that it contributes to their life goal of becoming a medical practitioner. There is a greater enjoyment of school and a more positive copying style.
- Integrated regulation - the student may range from unwillingness to passive compliance to personal commitment. There is a self-examination and an ability to bring congruence between the task and their own value system. While the classroom goal is ascribed to the student, this regulation is the closest one can get to internal motivation because of the volitional behavior.

While the research on hybrid learning in The Netherlands explained that self-determination could be taught (Harms, Hoeve, and Boeur, 2017), Fontys was able to apply methods by which extrinsic motivation could turn into intrinsic motivation. They considered how best to develop students' practical skills in the workplace as well as their social emotional learning to cope with failure in order to excel.

Activity Theory

Activity theory (Gedera and Williams, 2016) is a conceptual framework that can be used to understand the inter-relatedness of the subsystems within the educational system. With hybrid learning at Fontys, a real-world problem (object) from a business, non-profit, or university is posed to a student (subject). Peers, industry experts, teachers, and support staff (community) as well social media, physical work environment, and instruments (tools) are used in order to achieve the goal (outcome). The students have roles within their teams (division of labor) and uphold professional skills and social conventions (rules/norms) while performing their tasks.

The Performance Equation

The three needs of The Performance Equation (Hutchinson, 2013) are ability (skills), motivation (extrinsic/intrinsic), and opportunity (to participate). "If any of the key components (A, M, and O) are missing, discretionary effort is unlikely to be forthcoming." For example, a student in Fontys' Pulse minor may have the ability to build a robot and the motivation to perform well, but if the student does not have the power to make decisions whether in a group or autonomously due to a job restriction or lack of information, their performance is likely to be inhibited. The coaches are mindful of this.

Learning Environments

The effectiveness of hybrid learning is dependent on the learning environment (Beow, 2019). There are "choices for the learning environment design with respect to: (a) the physical site, (b) the kind of building or digital platform, (c) the specific spaces available for learning and/or working tasks, (d) the necessary furnishings, and (e) the surroundings, like the proximity to relevant resources (e.g., to expertise or to patients, clients or suppliers)." It is important for schools to have space for students to apply tools whether digital or physical to create practical solutions. Schools must also be in proximity with the community members and resources needed for students to perform the task. If a group of students are not able to visit the industry expert on-site, then the experts must visit the classrooms. When a student falls behind on a collaborative project due to special needs or trauma, coaches/counselors are available at the school to keep the student on track.

Utility Value

A study was conducted on two learning sights: a training company and a vocational school (Gross et al., 2020). At the vocational school, the teachers were left to supervise several students in class at the same time and thus resorted towards having more control over procedures and deadlines. Whereas at the training company, the trainers were able to work a smaller number of apprentices and could easily delegate the care of apprentices to colleagues. With the smaller groups, there was a better chance of building closer relationships and providing more individual feedback. A further question I have is if the type of student that ends up in vocational education needs or wants a more individualized education than those who go

to university. At Fontys, Innovational Lab minor offers content expertise from industry experts and the Pulsed minor builds confidence by offering a sense of home.

5) Conclusion

The theme that repeats is how students need to have the work skills needed to excel in a career. Even though students may excel in schoolwork at the MVBO or HAVO levels, they are not always equipped with the tools needed to complete a project or job task for a company. In the Netherlands, Fontys not only had partnerships with companies, but they also had career coaches, councilors, and peer mentors to support the students whether they were working on a company project off-site in the classroom or onsite at the company's offices. A team of student consultants, class lecturers, and volunteer/full-time coaches support students with study management, communication and writing, personal development, internships and applications.

My proposal for New York City public schools is to have a Business Pilot Program. The program is to be initiated at a school within District 2, which has a reputation for having successfully started city-wide programs in the past. It would serve as a model for other schools that are not officially Career and Technical Education (CTE) schools. Currently, there are only 130 schools that focus their training on preparing students for careers in technical education. The Business Pilot Program targets the other 1,746 schools who do not have formal career preparation programs.

A series of career and technical education classes will be provided to students over the course of four years. The first two years are focused on skill development while the last two weeks are on hybrid learning that combines the practical with the theoretical. The sequence is to be aligned with the benchmarks that the NYC Department of Education provides for in the Career Development Occupational Studies (CDOS) option that is typically only required by CTE schools. The

Standard 1: Career Development. Students will be knowledgeable about the world of work, explore career options, and relate personal skills, aptitudes, and abilities to future career decisions.

- 9th grade: Students take a Freshmen Skills class to build a foundation. They will learn how to write letters, research jobs, have an interview, network and follow-up. Students will have debates, learn basic finance, and practice public speaking. Teachers will coach students in areas of study management, communication and writing, and personal development.

Standard 2: Integrated Learning. Students will demonstrate how academic knowledge and skills are applied in the workplace and other settings.

- 10th grade: Students take a Technology Skills class to learn the Microsoft suite as well as how to build a website. Students will know how to organize and analyze data with excel, create professional presentations and use basic principles of coding to build a website.

Standard 3a: Universal Foundation Skills. Students will demonstrate mastery of the foundation skills and competencies essential for success in the workplace.

- 11th grade: Students take an Entrepreneurship class with support from a partnership with the Network for Teaching Entrepreneurship. This will allow students to interact with both industry experts and their teachers who will serve as coaches. Students also take a Financial Literacy or an Economics class.

Standard 3b: Career Majors Students who choose a career major will acquire the career-specific technical knowledge/skills necessary to progress toward gainful employment, career advancement, and success in postsecondary programs.

- 12th grade - Students engage in Work-Based Learning (WBL) through job shadowing and volunteering/service learning. WBL will be supported by partnerships with New York Cares (in person) and i-Mentor (remote).

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