PUBLIC-PRIVATE PARTNERSHIPS TO SOLVE THE SKILLS GAP?

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ABSTRACT

This article focuses on the issue of the 'skills gap' and the possibility for governments to stimulate collaborative partnerships between educational institutions and businesses ('public-private partnerships') to reduce this gap. The Dutch government initialized several such initiatives to realize regional public-private partnerships in vocational and higher education (Ministry of Education, 2017; Ministry of Economic Affairs, 2018), but also within the private sector alone, to stimulate cooperation to bridge the skills gap. The government implemented an incentive to build partnerships with much freedom to set goals and activities and to focus on experimentation and learning, with the requirement of co-funding and shared goals among partners. Partnerships might be able to achieve results that colleges or companies could never hope to attain alone ('the whole is greater than the sum of the parts'). Based on an analysis of 48 partnerships up until 2017, this appears to be true: partnerships can engage in a large variety of activities that each partner alone would not have accomplished; and can reflect and adapt based on their progress. However, the power relationship within the partnerships appears to have a strong tendency to lean towards the education institution, leading to goal displacement regarding their primary goal and the termination of activities that are perceived as difficult by the education institution, in the Netherlands most notably lifelong learning. This causes concern about the likelihood of involvement of (smaller) companies in the long term. The position of the less powerful partners (often small- and medium sized companies) needs to be strengthened for them to continue to participate, focusing on activities that benefit these partners, such as lifelong learning.

INTRODUCTION

This article focuses on the issue of the 'skills gap' and the possibility for governments to stimulate collaborative partnerships between educational institutions and businesses ('public-private partnerships') to reduce this gap. In 2018, McKinsey calculated that at least 58% of the jobs worldwide will undergo significant changes over the next 10 years (Manyika, 2017; McKinsey & Company, 2018). These changes are accelerated by the COVID-19 pandemic. In the Netherlands alone, a recent report by PWC calculated that in the coming years 1.6 million jobs will disappear because of digitalisation accelerated by the pandemic (PWC, 2020). Both reports emphasise that most people in the jobs that will change or disappear will need significant (re-)training.

All of this has significant consequences for the role of vocational and higher education, and associations of both vocational and higher education have declared that education

institutions can play a major role in the (re-)training of future and existing employees [6]. However, education institutions are often perceived as too slow to adapt to these rapid developments on their own (Netherlands Scientific Council for Government Policy, 2013). Partnerships with companies and non-governmental organizations are seen as a way of increasing the responsiveness of education institutions and are expected to be better able to improve the skills and knowledge of the workforce. The Dutch government developed several initiatives to realize regional public-private partnerships in vocational and higher education (Ministry of Education, 2017; Ministry of Economic Affairs, 2018), but also within the private sector alone, to stimulate cooperation to bridge the skills gap. Also, across Europe, several initiatives were launched (European Training Foundation, 2019), including a 400 million Erasmus+ program by the European Commission, to realize so-called centres of vocational excellence (see Grievink in this publication) [7].

This article reflects on the question of to what extent regional partnerships might be able to help reduce the skills gap. First, public-private partnerships are defined, and their characteristics are explored. Second, results from a large-scale quantitative analysis are presented, analysing the activities of 48 partnerships between vocational and higher education up until 2017. Third, the article concludes with the observation that regional partnerships can fulfil an important role in the (re-)training of the workforce. However, last but not least, it is argued that reflective problem solving and an equal role for companies and education institutions within a partnership are crucial to achieve success.

PUBLIC-PRIVATE PARTNERSHIPS IN VOCATIONAL AND HIGHER EDUCATION IN THE NETHERLANDS

The essence of a public-private partnership in vocational and higher education is that it involves results that neither colleges nor companies could ever hope to achieve alone. In practical terms, this could mean: i) a jointly funded location where both regular education and ongoing employee training can take place; ii) employees who are trained to pass on new knowledge and skills during a training program on a regular or incidental basis, therefore ensuring their continuing development and that of the company: education / training and work blending together on a continuous basis; iv) the launching of research projects in which students, teachers and employees work together on innovations, so that students receive a better education and the company can apply these innovations in practice; to name but a few activities with the potential to add value for all involved.

This type of partnership can be characterised as a collaborative relationship, emphasising the idea that each of the partners is dependent on the other to achieve goals they could not achieve alone (Ansell and Gash, 2008). The underlying assumptions are that the whole is greater than the sum of the parts, that new and innovative ideas will be generated, and that the partnership will exclude purely commercial transactions (McQuaid, 2000). This type of partnership strongly differs from the better-known purely contractual relationships between public and private actors, for example in realising infrastructure projects. In these latter partnerships, the idea is that private actors are better suited to achieving policy objectives, as private actors are assumed to be more effective and efficient (‘t Hart *et al*., 2001: 193). In this article, a public-private partnership is thus defined as a “*more or less sustainable cooperation between public and private actors in which joint products and/or services are developed and in which risks, costs and profits are shared*” (Klijn, 2010, p. 211).

[6] https://www.vereniginghogescholen.nl/themas/leven-lang-ontwikkelen, https://vsnu.nl/files/documenten/Nieuwsberichten/Visiestuk_18_november_kennis_voor_onze_toekomst.pdf, and https://www.mboraad.nl/themas/leven-lang-ontwikkelen, last visited 02 May 2021.

[7] https://ec.europa.eu/social/main.jsp?catId=1501, last visited 02 May 2021.

The characteristics of such partnerships strongly differ from the up to recently mainly conventional operations of education institutions in the Netherlands (see *Table 1*). First, rather than the education partner being solely responsible for conducting education and research programs, these partnerships imply that public and private partnerships share responsibility for achieving their goals, both at academic and economic levels. Second, rather than clearly defined roles and tasks for an education institution, such as conducting education programs, the activities within such partnerships can reach beyond the standard activities of the partners, are based on the needs of the partners, and (in theory) can incorporate new technology and solid knowledge and be more responsive to market developments and innovations.

	Education institution	**Public-private partnerships**
Goal setting, goal attainment and relationship with government	Sole responsibility for achieving goals set by government; direct relationship.	Network cooperation to reach self-defined goals; goals may be influenced by government.
Type of activities (supply/demand) and relationship with the government	Essentially supply-driven: Provide education for pre-defined attainment levels; rules and procedures set by national government to ensure quality.	Essentially demand-driven: Provide activities that network partners want, which may or may not fall under government rules and procedures.

Table 1: Comparison between key characteristics of education institutions and public-private partnerships (adapted from: Moerman, 2020)

Several examples exist within the Netherlands of this type of collaborative work, and the network of public-private partnerships in vocational and higher education has grown to more than 350 partnerships in over a period of ten years. An impact study in 2019 on 192 of these partnerships revealed that over 10,000 companies participated, reaching a total of 82,000 higher education students (Katapult, 2019). These partnerships often focus on technology-intensive sectors (or cross-sectoral themes like healthcare and technology), as employers in the Netherlands have difficulty finding personnel with the right background and skills, particularly in these sectors (Schwab, 2019, p. 419; Bakens *et al*., 2019). Policy evaluations of these partnerships conclude that they can narrow the gap between education and the labour market (Dialogic, 2020). A practical example is the Chemelot Innovation and Learning Labs, a cooperation of the *Hogeschool* Zuyd (University of Applied Science), Vista College (a VET-school), the University of Maastricht, DSM and Sabic, and over twenty small and medium sized enterprises located on the Chemelot Campus in Heerlen. After ten years, working together with students, higher education researchers, and professionals from the partner companies, they had developed a portfolio of modern research facilities, practical training programs and master classes for professionals, and practice-based research projects [8].

PARTNERSHIPS IN PRACTICE

A large-scale quantitative analysis of 48 partnerships has been conducted as part of a PhD project (Moerman, 2020), and provides insight into the actual operations of these partnerships in vocational and higher education in the Netherlands. Additionally, a thorough policy evaluation by Dialogic and Ecorys (2020) focused on one specific grant of the Ministry of Education (the Regional Investment Fund in vocational education) of the Dutch Government is used to enrich this analysis below.

[8] https://www.chillabs.nl/en/chill-enhances-the-innovative-strength-companies-the-chemical-sector/, last visited 02 May 2021

The partnerships analysed are part of three experiments launched by the Dutch government which took place between 2011-2017, all of them focused on establishing regional public-private partnerships (PPP) involving education colleges (MBO and HBO [9]), companies and often regional governments. The distinguishing features of all three experiments were:

a) The government provided a substantial financial incentive for achieving long-term cooperation between the schools and the companies;
b) The schools and companies were given a great deal of freedom to choose the goals of their partnership and the activities that they would engage in. There were few rules, procedures or targets, other than that the partners needed to cooperate and contribute financially;
c) There was a great deal of emphasis on learning, experimentation and development of activities, with new approaches being tried out in each experiment, such as learning programs, peer reviews and 'critical friends'.

The approach applied in all experiments thus gave much freedom for partnerships to realize their own goals and activities, including many features in the governance of the projects [10]. The large-scale analysis includes a bottom-up approach, using a tailor-made methodology to evaluate whether the chosen activities of partnerships were successful in the partnership's own terms. Based on the progress reported by the partnerships themselves, these results show the development of the 48 partnerships mentioned over a period of four to five years, providing an in-depth insight into the development of each partnership and whether the partners evaluated that development as positive (for a full explanation of the methodology, see Moerman, 2020, p. 144).

On average, each partnership engaged in 17 activities, distributed under different goals, with much variation in both goals and activities between individual partnerships. In total, 52 activities were identified to achieve the five overall goals. The goals and activities are presented in *Table 2*.

Goals	Example of methods to achieve goals (activities)
Contribute to innovative capacity	Facilitating start-ups Research and development for companies Sharing knowledge through meetings
Improve initial education	Update curricula Teacher training Student teamwork
Lifelong learning	Customized courses for a business Masterclasses for businesses Re-training for unemployed persons
Match between labour market & education	Develop a continuous learning route in secondary education towards vocational education Increase number of students in sectors with a shortage
Production and research facilities	Sharing of facilities by school and businesses Bring state of the art facilities within the school Use facilities of businesses

Table 2: Goals and examples of activities of partnerships (adapted from: Moerman, 2020)

[9] MBO: vocational education institutions, HBO: higher professional education, or universities of applied science.
[10] These governance regimes also featured elements of bureaucracy and new public management, which is beyond the scope of this specific article. See Moerman (2020) for more details.

In practice, a large variety of activities were introduced in the 48 analysed partnerships (see *Table 3*).

Goals	% of N	N
1. Improving initial education	49%	422
2. Contributing to innovative strength	22%	189
3. Matching education to the labour market	16%	136
4. Lifelong learning	10%	86
5. Production and research facilities	4%	36
Total	100.00%	869[11]

Table 3: Number of times a new activity was introduced (N) in 48 partnerships, categorized per overall goal (adapted from Moerman, 2020)

It can be observed that the activities varied strongly in the partnerships, with a focus on activities which improved initial education (the core task of the education institution). Emphasis was placed on activities that contributed to the innovative strength of the partners, such as engaging in innovation projects of practice-based research. Also, 16% of all activities focused specifically on matching the education curricula to the labour market needs through, for example, programs to stimulate students in sectors with shortage of workers (such as health care and engineering). 10% of activities was focused on lifelong learning, for example masterclasses, training courses for businesses or retraining of unemployed persons. Finally, most partnerships also established some sort of shared production or research facility, mostly to concentrate the partnership activities in a location shared by both companies and the school.

According to the partnerships' own evaluation, the activities performed as shown in *Table 4*:

Result	% of S	S
1. In line with expectations right from the start [12]	24%	203
2. In line with expectations after at least one year below expectation or no reporting [13]	16%	136
3. No mention after the initial plan and never reported on thereafter [14]	19%	161
4. Activity was reported below expectations consistently and/or disappeared from reporting after second year [15]	21%	179
5. Activity was started after the initial plan and/or original activity was changed radically [16]	20%	172
Total	100%	851

Table 4: Number of sequences (S) of how activities were reported on during the development of the partnership (adapted from Moerman, 2020)

[11] A total of 869 activities were introduced, leading to an average of 18 activities per partnership
[12] Sequence: (1) activity started; (2) in line with expectations or well above expectations; (3) in line with expectations or well above expectations; etc.
[13] Sequence: (1) activity started; (2) below expectations or no mention of activity; (X) in line with expectations or well above expectations. X means that this result can occur in either the third, fourth or fifth year..
[14] Sequence: (1) activity started; (2) no mention of activity; (3) no mention of activity; etc.
[15] Sequence: (1) activity started; (2) below expectations; (3) below expectations or no mention of activity; (4) below expectations or no mention of activity; etc.
[16] Sequence: (1) no mention of activity; (X) activity started or activity changed radically. X means that the year in which the activity started or changed radically can be either the second, third, fourth or fifth year of development.

Nearly 60% of all the activities showed strong performance fluctuations over the years: either the activities were started after the start of the PPP (underperforming activities were replaced by better-performing activities), or activities were tried and succeeded, or found to be failing and terminated. In total, 40% of the activities were successful during the project period. Activities perceived as complex or difficult by the partnership, often activities that ranged outside of the comfort zone of the education institution, were terminated more often than others (in this period activities that focused on lifelong learning were predominantly terminated).

Finally, a report by Dialogic and Ecorys (2020) evaluating partnerships in vocational education concludes that partnerships can strengthen the relationship between education and the labour market. As this report evaluates only one specific grant of the Ministry of Education focused specifically on vocational education, these specific results are not valid for higher education. In partnerships in vocational education, 70% of the partners are convinced that a better match between education and the labour market was achieved, and the quality of students has improved. Also, 60% believes the match between the education program and companies' performance has improved. Additionally, students in a partnership have on average a 0.5 to 3 percentage-point higher chance to get a job.

Partnerships in practice: observations and challenges

The analysis above gives reason to be positive on the potential of partnerships to bridge the skills mismatch problem. On average, the responsiveness of the education institution increases, and dedicated activities are undertaken to improve the skills and knowledge of the workforce. However, nearly half of the activities focus primarily on the core task of the education institution, and lifelong learning activities only constitute 10% of all activities. Qualitatively, much can be noticed from the analysis above, and many of the benefits and challenges the partnerships face are not unique. The main challenges correspond closely to (some) of the reasons cited in the literature regarding why PPPs may fail or struggle (see McQuaid, 2000, for an overview). Two main observations and challenges are summarized below: problem-solving capacity within partnerships and the power relationship between partners.

1) Problem-solving capacity within partnerships

A key aspect of successful partnerships, and of networks in general, is the ability of partnerships to choose their own goals and activities, and to be able to evaluate, adapt and terminate activities. The success of partnerships depends on the capacity for learning and diversifying, acknowledging the fact that partnerships operate in a context of uncertainty as to the precise route to take (Heemskerk and Zeitlin, 2014; Sabel and Zeitlin, 2012). In our case, the partnerships were given much freedom to manoeuvre, and actively engaged in problem-solving whilst formulating their own goals and activities. They reflected (to some extent) on whether these were proving effective and at times changed their approach. Interestingly, except for practice-based research, no differences were found between partnerships in vocational or higher education. Additionally, most of the partnerships continued their activities after the grant was finished, which can be considered a positive sign. The evaluation of Dialogic and Ecorys (2020) also finds that in vocational education there is no one-size-fits-all approach possible.

On the negative side, the partnerships terminated those activities that were perceived as difficult more frequently, especially when they were out of the comfort zone of the education institutions. These were often activities focusing on lifelong learning, something which the participating companies asked for explicitly but which was new to the education institution. As most partnerships are still only a couple of years underway this was to be expected, and a focus on 'low hanging fruit' was perhaps inevitable. However, evaluation of the actual

impact of the partnership to focus on the desired activities of the less dominant partners, especially small- and medium-sized companies, is something that requires much attention.

2) Power relations between partners

A much-discussed problem within collaborative partnerships is the (often unequal) power relations between partners (McQuaid, 2000). The strong incentive from the government including joint goal setting and the requirement of co-funding from all partners had a positive contribution to building equal partnerships, especially at the start. Given the fact that education and business live in different worlds, this requirement helped to bring these two very different worlds together in a 'compulsory' way. However, even with these requirements, the strongest partner in the partnership – the educational institution – ended up wielding disproportionate influence over the activities that were chosen throughout the years, leading to a goal displacement towards the primary goals of the strongest partner (Moerman, 2020). Overly dominant education institutions within a partnership can in the long run cause businesses to take a step back. For example, Dialogic and Ecorys (202) already found that continuous involvement of companies during the project period is one of the key challenges of existing partnerships.

CONCLUSION

This article focused on collaborative partnerships between educational institutions and businesses ('public-private partnerships') and their capacity to solve the 'skills problem', as many jobs will change or disappear in the next few years due to rapid evolution and the implementation of digitalization; the side effects of the COVID-19 pandemic are likely to hasten these changes. Partnerships might be able to achieve results that colleges or companies could never hope to attain alone ('the whole is greater than the sum of the parts'). Based on an analysis of 48 partnerships up until 2017, this appears to be true: partnerships can engage in a large variety of activities that each partner alone would not have accomplished, and to reflect and adapt based on their progress. In an evaluation by Dialogic and Ecorys (2020), this appears to have a positive effect on the match between education and the labour market. However, the power relationship within the partnerships appears to have a strong tendency to lean towards the education institution, leading to goal displacement regarding their primary goal and the termination of activities that are perceived as difficult mainly by the education institution, such as lifelong learning. This causes concern about the likelihood of involvement of (smaller) companies in the long term.

To conclude, a financial incentive to build partnerships with much freedom to set goals and activities and to focus on experimentation and learning, and the requirement of co-funding and shared goals among partners positively contributes towards successful partnerships that can contribute to solving the skills mismatch problem. However, the position of the less powerful partners (often small- and medium sized companies) needs to be strengthened in order to encourage them to continue to participate, and partnerships need to focus on activities that benefit these partners – even though they might be difficult to achieve, in practice.

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