

Report on VIP and the School of Education (2017-21)

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### **Five Year Review, Performance & Research Pathways**

**R. Collins    May 2021**

#### **Abstract**

*Vertically Integrated Projects (VIP) is an innovative HE pedagogy that was introduced to the University of Strathclyde from the Georgia Institute of Technology in 2012. Initially established for use within the fields of science and engineering, development work by the VIP Leader in the School of Education has resulted in several significant successes for the School, Faculty and University across the time of the current Review. Following a special invitation to present at Annual International Consortium Conference (Atlanta, US) in May 2017, this ongoing initiative was subsequently recognised internationally by the Georgia Institute of Technology as a 'World's First' in bringing the pedagogy to the field of Humanities and Social Sciences. Using the original School of Education VIP as a lens, it is instructional to reflect on its operation and identify material impact across the term of the current review, together with also postulating on future potential actions. It is evident that through the work of their VIP Leader, the programme continues to grow successfully and now forms a key strategic component of the School of Education, Faculty of HaSS and wider University.*

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### **Vertically Integrated Projects and its Origins in the School of Education**

The Vertically Integrated Projects (VIP) model originated at The Georgia Institute of Technology in 2008 and has now been adopted by many Higher Education Institutions (HEI) worldwide. This innovative pedagogy for HEI study was introduced to the University of Strathclyde in 2012 and has steadily grown in prominence to become considered as the signature pedagogy of the institution's outreach programmes by 2021. Significantly rebranded in Session 2017-18, Strathclyde's 'Vertically Integrated Projects for Sustainable Development' (VIP4SD) programme now provides a unique opportunity for students to work with academic staff, postgraduate researchers and other students on real-world research projects tackling the UN Sustainable Development Goals. These teaching and research projects are couched as sector-leading and long-term. In the institution's own words,

*'They offer students the opportunity to remain involved throughout their time at University, allowing them to gain academic credit and build expertise in their chosen field of research as they progress through their years of study. This sustainable research model allows teams to tackle the long-term, multidisciplinary research challenges that underpin these interconnected Global Goals, and deliver research outcomes that can make an impact now and beyond the 2030 target date'.*

*(VIP4SD Marketing 2020)*

Established in Academic Session 2012-13, the original School of Education VIP, 'STEM Education and Public Engagement' has proved popular and exemplary in its ambition to improve STEM literacies in students, children and communities. It remains operationally significant in supporting the University's key social metrics challenging gender and poverty imbalance within STEM studies. At the time of the current Review, approaching one hundred undergraduate and postgraduate students and over one thousand children from SIMD 0-40 areas have jointly participated in this project. Using the same categorisations as the School's recent successful Athena Swan Award data, the project may be said to have been very successful in recruiting a majority of female students as regards the project's student constituency. In terms of module evaluation, the VIP has enjoyed consistently equally high levels of student and partnership satisfaction.

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Concurrently the communities which the VIP outreach programme serves are set within some of the most deprived areas of Scotland as regards official SIMD 0-20 and 20-40 measures. Throughout the duration of its operation it is perhaps notable that schools in which the VIP operates have reported increased attendance rates and very high pupil engagement in STEM during the course of the programme. Crucially, at a recent event in Academic Session 2019-20, several of the children from an early iteration of the project addressed a University of Strathclyde student audience to announce their own intention to imminently apply to the University in undergraduate STEM subjects. All quoted the VIP as their inspiration.

### **National and International Measures of Esteem and Impact**

Across the duration of the current Review, the project has also continued to enjoy consistent high esteem profile and significant impact as a sector-leading innovation nationally. The ITE students studying on VIP within the School of Education have reached the finals of challenging Pecha-Kucha undergraduate competition online (2020), won several Strathclyde VIP Conference Prizes (2016, 2017, 2018), have been selected to represent the University at the prestigious British Conference of Undergraduate Research (2018) and one has remained a strategic partner with the project; going on to lead a Government Funded Initiative in a Local Authority Region (2019-present). Education Scotland have also approached the School's VIP, consulting directly with participating students regarding the redrafting of National Benchmark Documentation (Mathematics)(2016-17) and issuing invitation for them to present at the key Scottish STEM Leaders' Conference in Edinburgh (2017).

A similar view of the project is evident on the international stage. Perhaps again testament to the successful work with children and SIMD 0-40 communities, the VIP lead and its participants have been consulted by representatives of the Georgia Institute of Technology, New York University, University of Southern California and several European HE partners in terms of its approach and impact in the field of STEM Education in schools. Significantly, in view of its humanitarian ambitions, it is has received a unique message of special patronage from the pedagogy's originator Prof. E. Coyle (Georgia Tech); who not only founded the USA's prestigious Engineering Projects in Community Service initiative while at Purdue University but also personally visited the project in Session 2017-18. The project was also recently celebrated as integral in the University's achieving the coveted National Green Gowns Awards (2019) and International Green Gowns Award presented by the United Nations (New York) in Academic Session 2019-20. In light of this ongoing work the project lead was invited to become VIP Leader within the School of Education restructure in Session 2019-20.

### **VIP Work of the School of Education Influencing the Wider University**

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VIP work within the School across this time also led the project lead (later the School's VIP Leader) to bring the School's experience and his expertise to the University's VIP Implementation Executive. Here he helped the wider development and uptake of the pedagogy across the University. This involved co-ordinating the inaugural evaluation report of VIP at Strathclyde, close liaison with Educational Enhancement in updating the VIP website and online processes, providing VIP case study and presentations for Faculty Associate Deans, co-establishing the University of Strathclyde VIP Annual Conference and providing personal consultation support on the development of many new VIPs across Faculties. As well as raising its profile to enhanced prominence across the wider University, lessons learned while developing the School's VIP experience were also instructional when supporting other colleagues develop VIP more locally within HaSS too, namely Strathclyde Advisory Institute at Law (SAIL), Community Engagement & Glasgow's Children's University and the popular online VIP introductory module.

The work of the School and its Leader also played a key role in the re-invigoration of VIP pedagogy, its central re-positioning regarding University strategy and its global reach. Playing a key role within the re-conceptualisation of VIP pedagogy since 2017, notably in supporting its alignment to United Nations' Sustainable Development Goals (SDG), the School's VIP Leader contributed significantly to VIP's hugely successful rebranding as, 'VIP for Sustainable Development' (VIP4SD) at Strathclyde. Having worked closely as part of the University's VIP Implementation Executive as Education Lead for many years (2015- present) and having subsequently jointly presented rationale for the concept of VIP4SD at international conference on behalf of the University (2017, 2019), he was also influential in providing the expertise required to the curricular audit of existing pan-university VIPs and suggesting steps for operational effectiveness in appointing newer projects in respect of VIP4SDG fit.

Now positioned as the University's 'signature pedagogy' regarding outreach programmes and its drive towards sustainability, this work has contributed to the pedagogy featuring within Strathclyde's Vision 2025 documentation and prominently in its public engagement work. Equally, from a global perspective, many International VIP Consortium partners, most notably many of those in the US, have been informed by Strathclyde's innovative VIP4SD model within their own institutions. Ultimately, it is without doubt that the drive, investment, work and innovation of VIP supported within the School across the time of Review has been central in supporting the wider evolution and development of VIP to this prominence within the University and beyond.

## **VIP4SD: Developing Unique Pathways in the School of Education**

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Development work in respect of VIP4SD in the School of Education across the duration of School Review has been significant. Both the new main undergraduate degree programme within the School and revitalised VIP4SD concept design were developed in harmony. This resulted in BA (Hons) Primary Education curriculum architecture becoming an exemplary model for formalising VIP4SD capacity across the University. This has enabled the expansion of many VIP4SD projects within the School's undergraduate programme and offers clear opportunity for furthering academic research and enhancements to teaching excellence at postgraduate level.

Review of the main undergraduate programme (BA (Hons) Primary Education) commenced in Academic Session 2017-18 and ran concurrently with the redevelopment of VIP across the wider University. Student voice within the School at this time had made mention of an implied need for greater access to specialism within their undergraduate study. At the same time, it was recognised elsewhere in the University that although VIP study provided theoretical opportunity for student specialist study, a major stumbling block for its full operationalisation was that many of Strathclyde's undergraduate degrees traditionally provided few clear pathways in which to more formally accommodate VIP4SD. With all of this in mind, a decision was taken within the School to use degree review as an opportunity to re-invigorate formalised pathways within BA (Hons) Primary Education so that these might formalise both traditional options and vertical pathways within its curricular architecture. To date the BA (Hons) Primary Education remains notable as the first undergraduate degree within the University to offer this range of student choice as a deliberate part of its re-accredited design structure. This design and commitment to VIP4SD were subsequently commended both by the Faculty of HaSS and its Professional Regulatory Body (The General Teaching Council of Scotland) at re-accreditation for its insight and innovation in this respect in 2018. From 2018- 21 the School has often been consulted by colleagues across the University in respect of this degree and VIP4SD design fit.

Across the same duration (2018-21) several new VIP4SD pathways have begun to emerge more fully within the undergraduate BA (Hons) Primary Education programme. In addition to, 'STEM Education and Public Engagement' these have included several other unique and sector- innovative projects including, 'The Gambia Project', 'Hidden Voices: Investigating the experiences of families affected by imprisonment to transform education' and 'Additional Support Needs: Achieving Equity and Equality in STEM'. Together with these, several other Interdisciplinary Learning Modules on the second year of the BA (Hons) HaSS and BA (Hons) Primary Education have expressed an interest in developing a future VIP4SD strategy. These modules include context such as the Mathematics and Scottish Social History, STEAM Education (Malawi), Digital Literacies, Learning for Sustainability, Exploring Creatives, Memory-Belief and Misconception, Digital Cultures, Inter-generational Learning, Folklore and Fairy Tales, the Landscape of Social Research, Children's Mental Health and Cultural

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Studies. Again these facets of preparatory VIP4SD pathway design are unique within the Faculty and serve to highlight the School's expertise in this matter.

In terms of recent impact VIP4SD within the School has enjoyed several significant milestones. Within its rationale, together with providing excellence in the student experience, VIP4SD also seeks to support the expansion of impact and academic research output. To this end, across the period of current review the School VIP programme has been very successful, especially as regards internationalisation. In Session 2017-18 VIP students were successful in establishing the Faculty's first contact with Government and Schools in the Gambia Summer Project 2017. Their subsequent report was submitted to the Faculty's Internationalisation Officer and was informative in supporting the next iteration of the VIP (Gambia Project 2018) in establishing a Memorandum of Understanding with the Gambian Education Department. Although interrupted by global pandemic, continued funding and interest in maintaining this VIP4SD experience for staff and students remains active as of Session 2020-21.

Similarly, A VIP project that proved to have international reach focussed on Digital Literacies and Physical Peripherals was established in Session 2019-20. An offshoot of the School's original VIP, the project was successful in presenting findings from the project at international conference in Amsterdam (EdMedia and Innovate Learning Conference, online: 2020). A subsequent peer-reviewed research paper was also published from this project's work in the Association for the Advancement of Computing in Education (AACE) Journal in the summer of 2020. The project has recently been reported as exemplary in terms of its teaching excellence and research output at a recent University's VIP4SD Implementation Team meeting in spring of 2021.

VIP4SD has also started to influence across the wider teaching and research activity of the School. Since its inception VIP has always attracted significant numbers of PGDE (Primary) students. Some of these students have remained in close collaboration with the School in their professional lives, have maintained strategic alliance to VIP and have also investigated VIP as a potential subject of Masters' study. The VIP4SD concept has also been very well received in BA (Hons) Childhood Practice, where the new Director of Early Years and her research team were successful in receiving competitive internal University funding for their proposed project 'Supporting Inclusive Early Years Transitions through Emergency Situations and Beyond', in Session 2019-20. It is envisioned by the VIP Champion, BA(Hons) Course Leader, BA (Hons) Childhood Practice Course Leader and Director of Early Years that VIP4SD will enable harmonisation in teaching and research opportunities for students across both courses from undergraduate to Masters' level.

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With establishing pathways and fulfilling the potential of research publication with global reach, a paper was presented by the School's VIP Leader to the Depute Head of School (Research) in July 2020 regarding the potential for VIP4SD to help establish enhanced strategic links with Masters' and Doctoral study within the School. The concept of investigating and expanding existing VIP4SD undergraduate projects to align with future postgraduate taught and research study at SCQF Level 11 and 12, as well as allowing current postgraduate study contexts to inform the selection of future undergraduate VIP4SD experiences was proposed. This was received well and is currently undergoing further consideration at the time of Review.