

The Impact of Creativity, Action, Service (CAS) on students and communities



Non-technical report for the International Baccalaureate Organization

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1. Introduction

This report summarises the findings of an IB-funded study which explored the impact on students and communities of one component of the International Baccalaureate Diploma Programme (IBDP): Creativity, Activity, Service (CAS). Research was carried out in two of the three IB World Regions: Asia-Pacific (IBAP) and Africa, Europe and the Middle East (IBAEM). The research findings are prefaced by a review of existing academic literature pertaining to CAS and a summary of the adopted methodology. Before either of these sections, there is an overview of the CAS programme, its place within the Diploma Programme and the IB continuum, and the research aims in relation to understanding the term ‘impact’.

1.1 The International Baccalaureate Diploma Programme and CAS

Since its creation, the International Baccalaureate Diploma Programme has been conceived of as an international qualification which could be delivered in any country and recognised by any university (Peterson, 1972). Over time the International Baccalaureate (IB) has developed a continuum of international education programmes which includes not only the Diploma Programme (DP) but also the Primary Years Programme (PYP), Middle Years Programme (MYP) and Career-related Programme (CP). The IB philosophy forming the foundation of the four programmes focuses on developing international-mindedness and on developing the whole person – emphasising intellectual, personal, emotional and social growth (International Baccalaureate Organization, 2013). Creativity, Activity, Service (CAS), the focus of this report, has a central place in the holistic ambitions of the Diploma Programme and has done since its earliest days (Peterson, 1991/2003).

Initially Creative, Aesthetic and Social Service (CASS), the title was modified to Creativity, Action, Service in 2008 and then to Creativity, *Activity*, Service in 2015; this title applies to IBDP students graduating with effect from 2017. The project upon which this report is based formally began in October 2015, exploring the views of a number of CAS stakeholders which included students part way through their studies, whose engagement in CAS was completed under the 2008 guidelines. Throughout this report, therefore, the 2008 CAS Guide vocabulary – Creativity, Action, Service – is employed to reflect the language of the stakeholders at the time the project was undertaken.

CAS is of central importance in supporting the transformation of students as expressed in the mission statement of the IB:

“The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.”

(International Baccalaureate Organization, 2016a)

The IB Diploma Programme, completed over two years of study by students aged 16-19, combines pragmatic, ideological and pedagogical curriculum intentions to develop students who:

- have excellent breadth and depth of knowledge
- flourish physically, intellectually, emotionally and ethically

- study at least two languages
- excel in traditional academic subjects
- explore the nature of knowledge through the programme's unique Theory of Knowledge course

(International Baccalaureate Organization, 2016b)

With prescribed curriculum and syllabus content expressed in outcome specifications, the provision of subject-based knowledge acquisition in the DP is derived from an essentialist and rational encyclopaedist epistemology, with learners acquiring a general body of knowledge selected from the total of human knowledge (Thompson *et al.*, 2003). Academic subjects are organised to ensure rigour, breadth and balance. Subject selection, at higher or standard level, is from groups representing the major domains of knowledge: studies in language and literature; language acquisition; individuals and societies; sciences; mathematics and the arts. Students can opt to replace a subject in the arts group with an additional sciences, individuals and societies or languages course. While the study of an arts subject is not, therefore, a mandatory element of IBDP subject learning, creativity – which may include artistic creativity – is embedded in the IBDP through the compulsory requirement to complete CAS.

CAS, along with the Extended Essay (EE) and the Theory of Knowledge (ToK), form the core of the IBDP (see Figure 1.1).



Figure 1.1 The IB Diploma Programme (with CAS as Creativity, Action, Service)

(International Baccalaureate Organization, 2014)

The Learner Profile translates the IB mission statement into a set of ten attributes that not only embody the inherent values of the IB continuum, but also convey the culture and ethos which IB World Schools strive to attain. IB programmes aim to support their learners in becoming principled, open-minded, caring, balanced, reflective, knowledgeable, inquirers, thinkers, communicators, and risk-

takers (International Baccalaureate Organization, 2008b). Given the limitations of academic study in supporting this transformative process, the IBDP core is a crucial aspect of achieving the overall aim of the IB; the role played by CAS within the core is, therefore, an essential one to understand.

1.2 CAS and learning

The pedagogical philosophy upon which CAS is built recognises the importance of learning through direct experience of the world. It contrasts with traditional didactic approaches to learning and computational and behavioural learning models (Scott, 2008) whereby learners passively acquire knowledge derived from a rational idealist epistemology with a primary learning emphasis on acquisition, manipulation and recall (Kolb, 1984, 2015). While rationalist and behaviourist learning theories deny a role for consciousness and subjective experience in the process of learning, experiential models of learning emphasise immediate personal experience as the focal point of learning (*ibid.*). In this view, learning is the process of creating knowledge through the transformation of experience. Knowledge, in this sense, needs to be conceived of as conceptual and interpretive; it is knowledge as understanding, rather than knowledge as factual information. The IB adheres to this view, stating that learning is a process not a product, with the ultimate goal of IB programmes being to “enable students to make meaning of their lives and the world around them” (International Baccalaureate Organization, 2008c, p12).

Experiential learning is adaptive and transformational, effecting change in the learner’s frame of reference and the structures of assumption through which he/she understands experience (Mezirow, 1997). Predicated on an understanding that personal experience offers a valuable source of learning and personal development (Kolb, 1984), the view of the IB is that “learning through experience is fundamental to teaching and learning in the IB programmes” (International Baccalaureate Organization, 2008b, p33).

The CAS component of the IBDP core is a major contributor to experiential learning, which is sustained across the IB continuum in age-appropriate ways that include the promotion of experiential learning through structures as follows:

- PYP : Action
- MYP : Service and Action
- DP : Creativity, Activity, Service
- CP : Service Learning

As the culmination of non-academic learning throughout the continuum, CAS is where the holistic learning approach of the IB can be expected to have an impact on students in ways which might not be developed within their classrooms or through academic study. While not all of those students who participate in CAS have followed all IB programmes of study, the values and spirit of CAS can be conveyed through a programme which delivers it successfully as part of the IBDP. The aims of the project summarised in this report were to understand the potential impact of CAS according to those most closely involved in it, and are explained in more detail in the following section.

1.3 Aims of research and understanding impact

This research project sought to understand the impact of CAS on students and communities and did so through researching the views of three key sets of CAS stakeholders:

- IBDP students undertaking the programme of study
- Staff responsible for delivering or supporting CAS
- Alumni of the IBDP

This summary report presents the findings from analysis of these stakeholders' views collected via three online surveys, which were supplemented by additional interviews with students and teachers. The impact of CAS is understood as being those benefits and outcomes which are identified by the stakeholders as attributable to students' participation in CAS.

The impact of CAS on communities relates to three sets of people who were identified by stakeholders in connection with CAS:

- the wider school community beyond the IBDP peer group
- beneficiaries of students' CAS activities
- beneficiaries of alumni activities which perpetuate CAS activities beyond school

Through a consideration of the perceptions of the three sets of stakeholders with respect to the benefits and outcomes of CAS for students, and the extent to which these effects reach beyond individuals, conclusions are drawn about the impact of this component of the IBDP core. This report summarises the analysis of the survey data sets. Although the interview data have not been included here, they are presented as part of the findings in the longer, technical report.

Before explaining the methodology, the next section will review existing knowledge from research literature relating to CAS.

2. Review of relevant literature

To date, research directly relating to CAS is scarce and spans the period between 2002 and 2016. Although a number of studies of general applicability to the IBDP are referred to elsewhere in this summary report, studies reviewed here concentrate on those with a focus directly relevant to this research. Of the eight empirical studies identified, six were based in the IB Africa, Europe and Middle East (AEM) region, one in the Asia Pacific (AP) region, and one in the Americas. Existing research on CAS has tended to be small-scale, with only two studies collecting data from more than one country and just one drawing data from more than 100 respondents.

A homogeneity of methodology is apparent, all empirical studies using interviews and four combining these with questionnaires. Research inclines towards school settings, involving CAS students and staff as respondents, although one study focuses on IBDP alumni. The research topics include programme evaluation – both on the effectiveness of CAS in its entirety (Kulundu & Hayden, 2002), or just one element (Hatziconstantis & Kolympair, 2016) – and implementation, either of a specific CAS element such as reflection (Perry, 2015) or of the structures that support CAS delivery (Martin *et al.*, 2016). Wright and Lee (2014) consider whether the IB core components, including CAS, prepare students with skills for the current century; intergenerational learning, which DP students experience when engaging with the elderly in Service activities, is the subject of research by Cambridge and Simandiraki (2006); and the transformational impact of CAS is considered in the study of IBDP alumni (Lindemann, 2012), with the role of reflection a focus of the research by Brodie (2014). The only non-empirical article explores the impact of pedagogy in delivering CAS (Wasner, 2016) and raises important questions about the epistemological assumptions of non-academic learning through a critical analysis of the programme in relation to the stated aims of the IB.

All the research referred to in this section was conducted before the publication of the 2015 CAS guide and based on the 2008 CAS guide, except for the studies by Kulundu and Hayden, and by Cambridge and Simandiraki, which were based on its predecessor, effective from 1996.

2.1 Summary of existing CAS research

Kulundu and Hayden (2002) investigated how successfully the CAS programme had been implemented in one school, with a particular focus on the extent to which IB Diploma students had achieved the prescribed CAS aims. Using a single school in Lesotho as a case study, thirty-eight second-year IB Diploma students completed a survey, with follow-up student focus groups and semi-structured interviews with CAS supervisors. Findings suggested that CAS was treated as an extra-curricular component and thus perceived to have a more peripheral status than intended by the IB, resulting in confusion for participating students as to whether CAS should provide a counterbalance to subject studies or be directly linked to the DP academic curriculum.

A UK-based project by Cambridge and Simandiraki (2006) investigated intergenerational dimensions of CAS activities and associated learning outcomes. Analysis of telephone surveys of CAS Coordinators at twenty-eight schools, followed by semi-structured interviews with students and interviews with CAS Coordinators in four schools, was combined with textual analysis of students' reflective CAS journals. Findings suggested that students generally enjoyed the intergenerational interaction with older adults but disliked the required reflections. Additional questions were raised regarding the impact on participants' well-being with regard to the termination of intergenerational relationships and the desirability of having an 'exit strategy' in place.

Investigating the transformational impact of the Service strand of CAS on IBDP alumni who had graduated between 1997 and 2008, research by Lindemann (2012) used a web-based questionnaire with 71 alumni of an international school in Brazil, as well as semi-structured interviews conducted with eleven members of that group. Participation in Service activities was perceived to have raised students' awareness of socio-economic issues and transformed their view of their own role in promoting social change. In addition, feelings of empowerment engendered by CAS had led to increased social, political and civic involvement of alumni.

Wright and Lee (2014) explored the potential of the IB for developing 21st-century skills, by interviewing IBDP administrators, teachers and students in five schools in Beijing and Shanghai. This study found that, within the student-centred pedagogical approach of the IB, CAS fostered interpersonal non-cognitive skills, particularly communication, leadership and intercultural understanding. It also found that CAS suffered in comparison to the academic element of the IBDP, with students and teachers tending to accord it lower priority than examination subjects, and warned of the danger of superficial CAS experiences related to its pass/fail status.

The role of reflection in CAS learning (Perry, 2015) supported the findings of Cambridge and Simandiraki (2006) in suggesting that students tended to dislike this activity. Perry (2015) interviewed students, teachers and administrators in six schools in Turkey and reviewed documentation pertaining to their CAS programmes. He found that more effective reflections could be better supported by viewing reflection as an ongoing process: prior to commencing the programme in ensuring opportunities closely aligned to students' learning goals are capitalised upon; during the programme to adapt to CAS advisors' feedback and evolve with activities; and after completion of CAS to emphasise the importance of reflections.

The largest existing study into CAS (n =241) investigated perceptions of CAS by its various stakeholders and the implementation practices in three schools in Norway, six in the UK and one in Switzerland. Brodie (2014) adopted a mixed methods approach consisting of questionnaires completed by IBDP students at the end of their CAS experience, fifteen student focus group discussions, and nine semi-structured interviews with CAS Coordinators and Diploma Programme Coordinators. Brodie found that CAS Coordinators tended to feel overwhelmed by their role and, again, that while students perceived the activities as enjoyable they were largely negative about the required reflections.

Students' perceptions were also addressed in the study by Hatziconstantis and Kolympari (2016), with particular focus on the voluntary nature of the Service strand. Drawing data from a single school in Greece, interviews were carried out with three purposively selected IBDP students (academically average, good, and excellent students, the latter two being girls) and the transcripts analysed with inductive coding. These researchers found that the effectiveness of the Service strand in conveying the aims of the IB was dependent on which of the two dominant theoretical 'dimensions' the students identified with: the idealistic-humanitarian perspective in which volunteering is understood as selfless and requiring empathy; or the utilitarian-instrumentalist in which volunteering is self-serving and contributory to an "ideology of meritocratic competition" (Hatziconstantis and Kolympari, 2016, p13). The authors noted that both approaches fail to include wider social issues corresponding to the over-arching IB aim of promoting international mindedness.

Martin *et al.* (2016) investigated variations in the way CAS was implemented: how different approaches influenced the delivery of CAS, and how delivery related to students' perceptions of CAS. Interviews were conducted in six Turkish schools with staff involved in supporting students' fulfilment of CAS. Student focus groups were organised to include those of low, middle and high engagement with CAS. Analysis of transcripts employed NVivo analysis software. This research found that students'

positive perceptions increased in schools which integrated CAS; examples included whole-school involvement in CAS, when CAS had been initiated at the founding of the school, and when links became well-established in the community beyond the school. CAS Coordinators were found to be key influences on students' perceptions of CAS and, when the IBDP was seen as a means to a better college education, students considered CAS as interfering with their academic studies.

Similarly to Hatziconstantis and Kolympari (2016), Wasner (2016) discusses the effectiveness of CAS in achieving key ideals of the IB; as well as international mindedness, she considers the goal of students becoming global citizens. In her non-empirical paper, Wasner argues that for CAS, and for Service in particular, a dialogic pedagogy, in which teachers are students' companions in knowledge creation, would facilitate achievement of the IB's aims. She criticises IB terminology for promoting the somewhat passive aim of creating 'awareness' of social justice rather than advocating action for change. To avoid reducing Service experiences to brief and superficial encounters which simply reinforce the *status quo*, Wasner re-draws students as inquirers and contends that the requirement to make connections between service experiences and learning in different subject areas should be central to CAS (*ibid.*, p10). She proposes that the infusion of "criticality" (*ibid.*, p9) at every level would promote a culture of critical inquiry and the complementary pedagogy would support experiential transformative learning in line with the IBDP curricular aims.

The existing literature, though scarce, informed thinking throughout this research project. Although the project draws from only two of the three IB World Regions¹, recent research into civic-mindedness in the Americas by Billig and Good (2013) touches on aspects of CAS in the IBDP. Reference is made to this and other research, where relevant, throughout this summary report.

The findings of this project will be significant in advancing understanding of the impact of the CAS experience through the size and scope of data collected and the quality of contributions by participants. The means by which these data were collected and analysed is the subject of the following section.

¹ At the time of writing, IB was organised globally in three regions: AEM (Africa, Europe and the Middle East), Americas (North and South America), and AP (Asia Pacific). Data were collected for the study in the AEM and AP regions.

3. Methodology

This section details the scope, focus and design of the study. It sets out the nature and composition of the respondent population and explicates the mixed methods approach used to generate findings on the impact of CAS.

3.1 Overall approach to the research

This exploratory study combined quantitative and qualitative methods of data collection and analysis, integrating findings to provide a fuller understanding of the impact of the IBDP CAS programme through the perceptions of those involved in it, past and present. It also set out to identify examples of good practice arising in the data. Findings from qualitative data analysis were interpreted in conjunction with quantitatively-derived results, demonstrating methodological pluralism, and providing maximum potential for the probing of data, the collation of 'richer' data and, through corroboration and triangulation, building confidence in the findings of the analysis (Cohen *et al.*, 2011).

3.2 Research purpose and scope

The ultimate purpose of the study was to undertake research which would support and inform the growth and development of the CAS component of the IB Diploma Programme (IBDP).

Three stakeholder groups were identified: current IBDP students, IBDP alumni, and schools (represented by the administrators responsible for the CAS programme), with three themes identified:

- activities,
- perceptions, and
- good practice

where the term 'good practice' has been utilised in recognition of the many interpretations of good practice which arise due to specific school or cultural settings, being more appropriate than the norm-referenced concept of 'best' practice.

3.3 Research Questions

The following research questions guided the research activity for the project.

1. *What projects and activities do students undertake as part of CAS?*
 - a) *In what ways can student projects/ activities be categorized into thematic groups or focused areas?*
 - b) *What are the commonalities and differences in project/activity types undertaken in the IB AP and IB AEM regions?*
2. *What are the perceptions of IBDP students and DP alumni about CAS?*
 - a) *What factors motivate students to embark on their chosen project?*
 - b) *What aspects of CAS do students and alumni find most challenging?*
 - c) *What benefits do current DP students gain from undertaking CAS?*
 - d) *Do alumni identify post-DP benefits from having completed CAS?*

3. *What do schools identify as the major benefits and outcomes for students through undertaking CAS?*
4. *To what extent are Diploma students satisfied with their CAS experience?*
 - a) *To what degree do DP students (and alumni) value CAS?*
 - b) *Does satisfaction with CAS vary according to the project/activities undertaken by students?*
 - c) *Is there variance in the value students place on CAS in different school and country contexts?*
5. *What are best practices for implementing an effective CAS programme?*
 - a) *What do schools identify as the key elements that underpin a successful CAS programme?*
 - b) *What do DP students (and alumni) identify as being the main elements that contribute to a rich and rewarding CAS experience?*

These questions interweave the three identified themes noted above (Section 3.2) and were addressed by select combination of the perceptions of the three sets of stakeholders.

3.4 Research Design

A mixed-methods approach was employed using an explanatory sequential design (Creswell, 2003). Stakeholders' perceptions of CAS, details of CAS projects and activities, and examples of good practice in schools were sought via online surveys designed purposely to address the research questions and take into account issues raised in the literature review.

- From students, views were sought on their overall perceptions of CAS, of the three CAS strands, of benefits and outcomes, motivational factors, activities undertaken, and the procedures employed for recording, reflecting, and reporting and presenting.
- CAS Coordinators were asked about their role and responsibilities, implementation practices, activities, benefits and outcomes for students, the IB continuum, and the new 2015 CAS guide.
- Alumni were asked about their perceptions of CAS overall, life after CAS and their perceptions of the benefits and outcomes of CAS.

Hereafter in this report, IBDP current students are referred to as 'students' and IBDP alumni as 'alumni', unless explained otherwise. The CAS staff members surveyed are referred to generically as CAS Coordinators; although they primarily held the role of CAS Coordinator in their various institutions, the survey also included a small number of others, such as Diploma Programme Coordinators.

It is also noted that, although interview and focus group data were collected and analysed, and have been included in the more detailed technical report, they are not included in this Summary Report. Details of the interview design, collection, schedules and analysis can be found in the technical report.

3.5 Data Collection

Student and CAS Coordinator online surveys were developed at the University of Bath and distributed by the IB research team to IB Diploma Coordinators of all IB World schools in the IBAP and IBAEM regions. The IB research team also distributed the alumni survey link to the IB alumni database. To complement the sample of alumni accessed via this route, researchers on this project also secured the cooperation of a number of schools known to have alumni databases which agreed to forward the

survey to their ex-students, making clear in doing so that the survey was only intended for those who had completed the IBDP.

3.5.1 Nature and Composition of the survey populations

The student survey attracted an impressive 7973 valid respondents, mainly (93.2%) in their second year of IB Diploma studies and therefore having substantial CAS experience upon which to draw. 14.4% of the total number of respondents had in fact already completed the CAS programme. More detail is included in Section 3.5.2.

490 valid responses were received from CAS Coordinators (see Section 3.5.3).

The majority of the 903 valid responses from IBDP alumni (57.5%) had completed the IBDP within the previous three years; for others the time since completing the IBDP was longer – including a small number of respondents who had completed the IBDP as long ago as 1979 (see Section 3.5.4).

Overall analysis of the valid returns by instrument are presented in Section 3.6 (Table 3.3).

3.5.2 The student population

The 7973 valid student responses were those that remained after cleaning the data (to remove unattributable, incomplete or otherwise invalid responses). The vast majority of student respondents from both regions were in the second year of the IBDP (all students 93.2%; AEM 92.4%; AP 94.2%) and, in addition to 14.4% overall having already completed the CAS requirements, over 80% were at least halfway through or likely to complete very shortly. There was a majority of female representation overall, reflecting the general gender distribution for IBDP students worldwide, and some regional variation evident (Table 3.1).

Respondents	Overall survey population %	AEM survey population %	AP survey population %
Female	57.3	60.6	53.4
Male	42.7	39.4	46.6

Table 3.1 Gender distribution of student respondents across the two regions

Whilst approximately one third of the overall student group had studied the IB Middle Years Programme (MYP) prior to embarking upon the IBDP, either in their current school or in a previous one, the majority had *not* done so. The regions returned comparable figures (AEM = 33.2%, AP = 30.3%). CAS Coordinator responses reported that the large majority (87.7%) of students began their experience of CAS as soon as they started their IBDP studies, and 97.7% were engaged in CAS across the first and second year of the IBDP. Thus it may be assumed that the student body were responding to the survey from a position of familiarity with the CAS programme.

3.5.3 The CAS Coordinator population

The regional distribution of the 490 valid CAS Coordinator responses after data cleaning was Africa, Europe and Middle East (AEM) 60.7%, Asia Pacific (AP) 39.3%. Over 60% of CAS Coordinator respondents overall were female; in AEM 67.3% and in AP 51.6%.

As indicated in Table 3.2 below, the majority of Coordinators had spent a relatively short period in post, particularly in their current school, which is especially apparent in schools in the AP region.

Overall, 28% of respondents were in their first year as CAS Coordinator (AP 30.3%, AEM 26.6%), whilst the proportions of the two regional groups of respondents in their first year as CAS Coordinator at their current school was AP 34%, AEM 30%.

Length of experience as CAS Coordinator	% Overall population	% AP population	% AEM population
<i>In all schools attended</i>			
• 3 years or less	56.1	64.3	50.7
• 4 – 6 years	27.4	22.9	30.3
• 7 – 10 years	11.1	9.6	12.1
• 11 or more years	5.4	3.2	6.9
<i>At my current school</i>			
• 3 years or less	59.9	69.3	53.8
• 4 – 6 years	26.2	20.8	29.8
• 7 – 10 years	9.1	7.3	10.3
• 11 or more years	4.8	2.6	6.2

Table 3.2 Length of experience as CAS Coordinator, overall and by region

It is also the case that, for the vast majority of respondents, coordination of the CAS programme was undertaken by those who also have other responsibilities within school: class teacher (47.3%), head of department (10.6%), IB Diploma Coordinator (5.6%), and senior administrative posts including principal/head (4.7%). Over 30% also listed a wide range of other duties and commitments.

3.5.4 The Alumni population

It was possible to attribute regional distribution of the 903 valid responses received from alumni according to where the IBDP had been studied (AEM 54.8%, AP 44.1%). Just over 1% of respondents had studied at schools outside these two regions. It should be noted that the process of identifying and contacting potential survey respondents was more *ad hoc* for alumni than for student and CAS Coordinator respondents, given the greater challenges of making contact with those who are no longer based in IB World schools; regional affiliation was not included in detailed analysis of the returns made by alumni, as it was felt not to be as directly relevant as for the other two stakeholder groups.

More than half of the alumni responding to the survey had completed the IB Diploma within the previous three years (57.5%). The majority of the remainder represented those who had completed in the period 1993 to 2012, with 5 respondents from the period 1979 to 1992. A slightly greater proportion of females was represented than in the student respondent population (61% female, 39% male). Compared to the student population, a smaller proportion (one sixth) of alumni had experienced the MYP programme prior to DP study; 93.8% had gone on to further studies at university or college.

The response to this project from all three stakeholder groups has been most encouraging and provides a robust foundation for the analysis and findings shown in Sections 4 to 8.

3.6 Data collection instruments, survey population data and ethical considerations

Three online web-based surveys were developed using the Bristol Online Survey software developed by the University of Bristol and available on licence to the University of Bath. Responses collected via these instruments comprise the quantitative data set arising from closed questions using a four-point Likert scale ('definitely agree', 'slightly agree', 'slightly disagree', 'definitely disagree'), while qualitative data were gathered via the open-ended survey questions. The instruments were designed to meet the three identified themes and differentiated to answer the research questions by stakeholder. The students' survey contained 41 questions, the CAS Coordinators' survey 50 questions, and the alumni survey 21 questions. Draft surveys were shared with IB staff for review and were piloted prior to implementation. Data collected from the pilot were not included in the larger data set for subsequent analysis.

Table 3.3 provides information about the composition of the data sets for each survey instrument, including their distribution by gender and IB region.

	Students				CAS Coordinators				Alumni			
	Valid Cases	Missing cases	% female	% male	Valid Cases	Missing cases	% female	% male	Valid Cases	Missing cases	% female	% male
IBAP	3664	11	53.3	46.4	192	-	51.6	48.4	-	-	-	-
IBAEM	4309	5	60.6	39.3	298	1	67.1	32.6	-	-	-	-
Total	7973	16	56.7	42.2	490	1	60.9	38.7	903	1	61.1	38.9

Table 3.3 Valid cases and percentages of male/female respondents for each instrument, by region

The surveys were open for a period of several months to maximise the number of respondents. The Bristol Online Survey was password protected and could be accessed directly by the research team only. In this way, assurances of respondent confidentiality could be honoured. Throughout this report, respondents who are quoted are attributed with unique identifiers known only to the research team, and specific details which were considered to be potential breaches of confidentiality were given alphabetical replacements.

3.7 Quantitative data: methods of analysis

Detailed analysis of the quantitative data was guided by the research questions. Research questions 1 to 4 were addressed by calculating frequencies of response from each of the three surveys and making comparisons across IB regions, CAS strands (Creativity, Action, Service), countries or types of school as appropriate. Research question 5 was addressed using multilevel regression models to predict a series of outcomes operationalised from the student engagement and learning outcomes described in the IB CAS guide (International Baccalaureate Organization, 2008a), the version of the guide on the basis of which the majority of students were studying. Further explanation of the multilevel regression models is offered next.

3.7.1 Quantitative Measures

The dependent variables were a series of outcomes operationalised from the student engagement and learning outcomes described in the IB Creativity, Action, Service guide (International Baccalaureate Organization, 2008a). The IB does not provide a definitive description of a successful CAS programme, instead appreciating that, due to the unique nature of each school, CAS programmes will be individual in nature and institutionally contextualised. However, there are central qualities and

conditions that form a commonality to all CAS programmes. For analytical purposes, it was assumed that if a school is fulfilling these conditions it can be deemed to be providing a successful programme. Additionally, in order to have an outcome providing an overview of the performance of CAS programmes, a General Outcome was created with the items included in the 'Benefits and Outcomes' section of the student survey.

Table 3.4 provides a summary of the qualities and conditions considered and the questions from the student survey used for operationalising the outcomes or dependent variables. (Page numbers refer to the 2008 CAS Guide).

Number 3 in Table 3.4 is abbreviated in Section 8 figures to RCTR: activities should be real and challenging, and require thoughtfulness and reflection. In this way, the activity outcomes could be operationalised.

A scale was created for each learning outcome described in Table 3.4. Each scale was calculated through Principal Component Analysis (PCA), where each scale score for each student is a weighted average of the items composing each theoretical concept. For example, the 'Enjoyment' score for each student is a weighted average of the Enjoyment items:

$$\text{Enjoyment}_i = \alpha_1 \text{Creativity_Enjoyable} + \alpha_2 \text{Action_Enjoyable} + \alpha_3 \text{Service_Enjoyable}$$

where:

$$10.1 = \text{Creativity_Enjoyable (I find/have found the Creativity strand of CAS: Enjoyable)}$$

$$10.2 = \text{Action_Enjoyable (I find/have found the Action strand of CAS: Enjoyable)}$$

$$10.3 = \text{Service_Enjoyable (I find/have found the Service strand of CAS: Enjoyable)}$$

Item weights were calculated by applying PCA to the student data. The weights, α 's, in the above equation were then used to calculate Enjoyment scores for each student. Cronbach's alpha coefficients were used as the basis for exploring the consistency of the items in the different scales. The Cronbach's alpha coefficients and the respective range of factor loadings for each scale are presented in Appendix 5. Cronbach's alpha values ranged from 0.56 (for the scale 'Initiation of Activities') to 0.98 (for the 'General Outcome' scale), which indicated fairly satisfactory levels of reliability. The procedure proposed by Caro and Cortes (2012) was adopted for both, constructing the scales and reviewing their consistency.

Student engagement and learning outcomes	Student survey question number
1. Enjoyment: “A good CAS programme should be ... enjoyable” (p3).	10.1, 11.1, 12.1
2. [CAS should be] “a personal journey of self-discovery ... for many [students] their CAS activities include experiences that are profound and life-changing” (p3), meaning students should learn about themselves and about ‘life’.	8.1, 8.2, 25.1, 25.2, 25.3, 25.4
3. Activities: “All proposed CAS activities need to meet four criteria. CAS should involve: <ul style="list-style-type: none"> • real, purposeful activities, with significant outcomes • personal challenge – tasks must extend the student and be achievable in scope • thoughtful consideration, such as planning, reviewing progress, reporting • reflection on outcomes and personal learning” (p3) 	10.3, 11.3, 12.3, 36.1, 38
4. Initiation of activities: “All students should be involved in CAS activities that they have initiated themselves” (p12)	15, 17, 19, 34.1
5. Aims: “The CAS programme aims to develop students who are: <ul style="list-style-type: none"> • reflective thinkers • willing to accept new challenges and new roles • aware of themselves as members of communities with responsibilities towards each other and the environment • active participants in sustained, collaborative projects • balanced – they enjoy and find significance in a range of activities involving intellectual, physical, creative and emotional experiences” (p5) 	22.10, 27.2, 24.1, 24.2, 24.3, 24.4, 27.3, 22.9
6. Documented learning outcomes: “Students need to document their activities and provide evidence that they have achieved eight key learning outcomes” (p3) <ul style="list-style-type: none"> • increased their awareness of their own strengths and areas for growth • undertaken new challenges • planned and initiated activities • worked collaboratively with others • shown perseverance and commitment in their activities • engaged with issues of global importance • considered the ethical implications of their actions • developed new skills (pp5-6) 	24.5, 24.6, 24.1, 26.3, 23.3, 27.4, 27.1, 27.5
7. General outcome: For this scale we created a scale with the items included in the section ‘Benefits and Outcomes’ of the student survey.	22.1, 22.2, 22.3, 22.4, 22.5, 22.6, 22.7, 22.8, 22.9, 22.10, 23.1, 23.2, 23.3, 23.4, 23.5, 23.6, 24.1, 24.2, 24.3, 24.4, 24.5, 24.6, 25.1, 25.2, 25.3, 26.1, 26.2, 26.3, 26.4, 26.5, 26.6, 27.1, 27.2, 27.3, 27.4

Table 3.4 Qualities and conditions considered to describe a successful CAS programme and the student survey items used to operationalise them

The explanatory variables were selected from both the student and CAS Coordinator surveys. First to be selected were those variables judged to have an association with the outcomes in theoretical terms. Then a series of bivariate correlations were run between each of those variables and the outcomes, and the variables selected that established a statistically significant correlation with at least five of the seven outcomes. Finally, the selected variables were fitted in the multilevel models.

Four separate models were fitted for each outcome. First, an unconditional model (Model 0) was fitted with no predictor variables on either the student or the school level. This model provides estimates for the student level and the school level variance components which were used to determine how much of the total variance in each of the outcomes is accounted for by students and schools respectively (shown in Figure 8.1). Next, in Model 1, student predictor variables were included and no school (i.e., CAS Coordinators) variables. In Model 2 the school predictor variables were added to those included in Model 1. Finally, in Model 3, only the variables that showed statistically significant coefficients in the previous model were included. A graphical representation of the results (Figures 8.2-8.6) can be seen in Section 8. All analyses were carried out using MPlus (Muthen & Muthen, 2005).

3.7.2 Relative Strength of Agreement

In order to identify the relative strengths of agreement with specific items within each of the survey groups, and to be able to compare responses across the three groups as appropriate, the use of a weighted mean (WM) of responses for any selected survey item was obtained by allocating a weighting factor of x2 to the percentage of responses in the 'Definitely Agree' and 'Definitely Disagree' categories within the group. Responses to the two 'Agree' categories have been treated as having a positive value, whilst those in the 'Disagree' categories have been taken to be negative. This approach to the task of identifying the relative strengths of agreement between the responses of differing stakeholder groups to similar items is a common one in descriptive statistics and has been deployed extensively in both professional and academic research studies.

Using this method, it will be clear that weighted means in the +1.0 to +2.0 range represent quite strong agreement by respondents, and that conversely -1.0 to -2.0 indicate quite strong disagreement. The range 1.0 to zero in both positive and negatives senses likewise indicates less strong agreement/disagreement by respondents on average. A weighted mean value of zero will indicate, on average, no net agreement/disagreement within the group as a whole.

The results of applying the process described above to each of the three stakeholder surveys have been used in exploring the overall features of a number of topics and themes relating to the study, and provide an overview, adding weight to the findings of other forms of analysis.

3.8 Qualitative Data: Methods of Analysis

Qualitative analysis of survey data in the form of open-ended responses to a number of questions was directed by the quantitative analysis of data from closed survey items, and extracted data were matched to the project's research questions. As well as directly addressing the first research question, thematic analysis, was employed as an iterative and substantial refinement to all research questions, considered necessary with such a large qualitative data set.

3.8.1 Methods of thematic analysis

Thematic analysis allows the transformation of qualitative data into systematically manageable answers to the research questions (Boyatzis, 1998) and was considered to offer a methodologically robust analytical approach. The coding exercises followed Miles and Huberman (2005) to ascertain

the activities which students undertake to fulfil their CAS requirements (see Section 4), and Braun and Clarke (2006) to address the remaining research questions (Sections 5-8).

The first- and second-level coding approach of Miles and Huberman (1994) required initial coding to identify a range of categories until saturation was reached: no new categories emerged. The second-level coding grouped the emergent categories into a smaller number of themes. During both levels of the coding process, memos identified clear examples which could be used to illustrate the reported categories. Throughout the results sections of this report (Sections 4-8), examples of participants' responses are included as appropriate in the prose to illustrate, strengthen or add detail to our findings.

Braun and Clarke (2006) delineate a rigorous 6-phase process which involves familiarisation with the data, generation of initial codes, searching for themes, reviewing the themes before defining, and naming them for reporting. This develops Miles and Huberman's approach and generates more robust and refined answers to complex questions, and was thus considered appropriate for addressing perceptions and values (Research Questions 2 to 5).

3.8.2 Double Coding

Coding choices are an important aspect of decision-making in thematic analysis. This study adopted a double coding procedure which ensures that all elements of a complex response are acknowledged and avoids analyst selection. In recognising that respondents' data can be coded as belonging to more than one category, a rich reflection of the complexity of respondents' views is preserved.

The following is an illustrative example which was counted in *three* different categories. The survey prompt was "CAS changed me in other ways: please comment", and one respondent wrote:

"I see the world in a wider view now. I also try to become more communicative and a person that can work in a team well as well as be more understanding." (885: AP)

Categories:

- | | |
|-------------------------------------|---|
| 1. 'Broadened perspectives' | "I see the world in a wider view now." |
| 2. 'Improved leadership skills' | "I also try to become more communicative and a person that can work in a team well" |
| 3. 'Better understanding of others' | "be more understanding" |

3.8.3 Qualitative Analysis: results presentation

Results from thematic analysis are presented in tables throughout the report. The tables show overarching themes sub-divided into categories. Where appropriate, quotes from data also appear.

A further qualitative method was employed for data presentation. Word clouds – sometimes known as tag clouds or content clouds – are included as a presentation technique for Coordinators' responses to Research Question 3 and provide a summative visual display (Bletzer, 2015), or a multi-focus cluster labelling (Eikvil *et al.*, 2015) of the range of skills – hard and soft – acquired by students. In this method, word or phrase size represents its frequency (Mathews *et al.*, 2015) and is a useful means of providing viewers with an overview of textual content generated from focus vocabularies (Eikvil *et al.*, 2015). The use of word clouds is rare in educational research, but is a useful way to represent here the range and frequency of skills identified by Coordinators. The findings commence with an overview of the activities and projects students undertake in fulfilling the requirements of the IBDP CAS component.

4. Findings: CAS Projects and Activities

Limited current knowledge of the range of projects and activities undertaken by students to fulfil the CAS requirements prompted inclusion in the online survey of questions intended to identify thematic groups or focused areas. CAS Coordinators' and students' quantitative data addressed this question and, from students only, qualitative data were sought through responses to a four-part request:

"List all the activities you have done for CAS Creativity/Action/Service/Project"

Figure 4.1 shows that, while some Coordinators are not sure whether CAS activities are organised at their school by themes, the majority think there are no themes. Qualitative analysis, however, revealed discernible themes in the types of activities being carried out for CAS. Themes in each CAS strand are presented below, followed by findings about CAS Project activities.

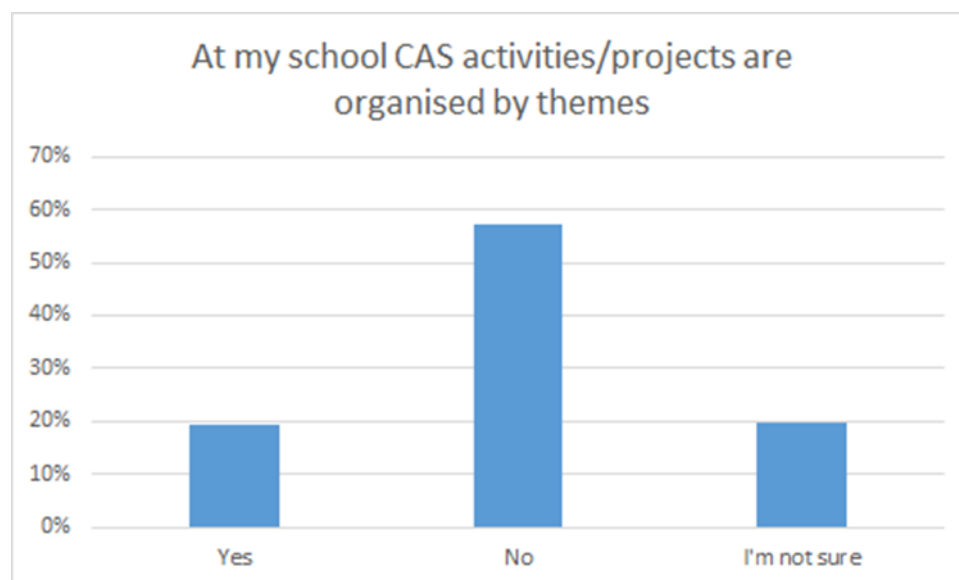


Figure 4.1 CAS activities/projects organised by themes: CAS Coordinators

4.1 Creativity strand

"Creativity: arts, and other experiences that involve creative thinking."

(International Baccalaureate Organization, 2008a, p3)

The open nature of the survey question gave students freedom to respond in one word or mini essays. The emergent themes are presented (Table 4.1) to mirror frequency, although this is for indicative purposes only as data were double coded, resulting in more activities than there were students, and cannot therefore be read as raw quantities. Nevertheless these results are useful to identify which activities were cited for Creativity more often than others; themes near the top of the table appeared more often than those at the bottom and categories are shown from most to least reported.

Table 4.1 Creativity Thematic Groups

Creativity Themes	Categories
Performing	<p>‘Music’ – where specific musical activity is recorded e.g. piano lesson; jazz band; singing in school choir</p> <ul style="list-style-type: none"> • Performing Arts – visual arts performance or involvement with a performance; so includes back-stage at school play, dance performances, drama workshops, DJ-ing, Fashion show hair and make-up
Making	<ul style="list-style-type: none"> • Art & Design – from specific artistic work such as exhibiting own art, to designing posters or T-shirts, and includes no-specifics such as ‘drawing’ • Cooking/Baking – includes classes but also entries which just say ‘cooking’ or ‘baking’ without explanation • Crafts – knitting, crochet, origami, hair-braiding and weaving, jewellery-making, henna painting, making cards • Photography – usually included without further explanation • Decoration – some entries just this single word; others specify e.g. ‘decorating school hall for Hallowe’en Ball’ • Gardening – sometimes with a gardening club, sometimes just the word • Building – architectural scale models and model-making activities; wood working; Lego
Organising	<ul style="list-style-type: none"> • ‘Events’ includes huge variety of foci and activity, including organising, planning and attending, e.g. ‘being on the prom committee’ to unspecified involvement: ‘International Afternoon’ ‘AISAR Night’ • Yearbook – from organising committee members to art-work designers • Student Council – any involvement as participant
Communicating	<ul style="list-style-type: none"> • MUN – any Model United Nations activity from chairperson, press team at a conference to organising a school event • Languages – usually recorded as ‘learning X language’ but this category also includes entries saying ‘learning various languages’ • Web/IT Skills – a range here from learning to code to writing own blog/vlog, designing websites and editing photos/film • Writing/Journalism – this includes creative writing of any sort (novels, poems, films, songs) and writing for school or other newspapers or media outputs • Debating – usually as part of a debate club • Promoting/Publicity/Advertising – usually in connection with an organised event e.g. the prom

Giving	<ul style="list-style-type: none"> • Charity – varied involvement but mentioning a charity or charitable activity. This includes 3 sub-categories: <ul style="list-style-type: none"> a. volunteering b. fund-raising (including bake sales) c. unidentified other: e.g. sometimes a recognisable charity is entered but the activity is not specified e.g. ‘Amnesty International’ or ‘Red Cross’ • Tutoring/Mentoring – where entries specify teaching others or working with younger pupils e.g. gave Maths tutoring to Y6; or trained as school counsellor • Training/coaching – specified sporting activity where students was a coach or trainer • First Aid – where training was undertaken
Other	<ul style="list-style-type: none"> • Organised competitions/trips – Olympiads, Maths Challenges, Dance Competitions are examples of the former; trips can be specified, e.g. CAS Cambodia Trip, or ‘Summer Camp’ • sport/exercise – recorded each mention, though their inclusion as ‘creativity’ might be debatable, and includes participating as athlete or referee, individually or in teams, and also entries which specify a type of exercise as a class or which is not considered organised sport e.g. Zumba or gym • Science/STEM – any activity which referred to these subjects, including Math(s) Club, conducting scientific experiments and robotics • Business/Entrepreneurial – Young Enterprise, setting up own business, Business Club • Attending Conferences/Summits/Exhibitions – includes MUN conferences, student summits and exhibitions at art galleries or museums • Work (including work experience)/Internships – where work/work experience or internship specified • Extra courses – where specified courses are undertaken in addition to the school workload; excludes revision classes • Ecology/green activities – sometimes with school club, sometimes in connection with charity activities, events or conferences with this focus • Church Activities – variety including singing and fund-raising • TEDx – mentioning participation in these talks • DoE – mentioning participation, usually at Silver or Gold award level • GIN – (Global Issues Network) mentioning participation

Table 4.1 Creativity Thematic groups

4.1.1 What counts as a CAS Creativity activity?

Table 4.1 displays the rich variety of activities being undertaken to fulfil the Creativity requirements, showing a flexibility of the programme in operation which maximises the potential for students to meet the CAS requirement. In addition, the findings not only show that there is identifiable homogeneity to Creativity activities across the two world regions, but also raise questions about the *purpose* of the activities and, as a consequence, how activities relate to the impact of this strand of CAS in developing creative thinking in students.

The 2008 Guide, which applied to students in this study, stipulates that creative thinking must be involved in this strand. However some responses raise questions about how creativity is being interpreted. For instance, it might be argued that “becoming a vegetarian” (207) or “vegan” (885) requires creative thinking, but to what extent can the same argument be made for “wine tasting” (1785)? Flying lessons (1363) and driving classes (1420, 1894, 1989) are aspects of a learning activity which presumably take place under close supervision. How, therefore, is creative thinking fostered in learning processes requiring passive or active student participation? When one person writes that they are “learning Chinese philosophy” (93), the creative aspect is not clear without the additional information they provide explaining that they “presented in front of the entire school” (93). What understanding of Creativity is present in the mind of the student whose response was “conversation? Su-doku aaaaall the time!” (912)?

The current CAS Guide, applying to students graduating from the IBDP from 2017 onward, re-defines Creativity as:

"exploring and extending ideas leading to an original or interpretive product or performance"

(International Baccalaureate Organization, 2015, p8)

The results in Table 4.1 suggest that a number of existing activities would not meet this criteria – for instance Charing the Model United Nations, learning a language or volunteering for charity. The new CAS Guide is not so specific about the impact Creativity aims to have on students but is treated within the more holistic aims of CAS: "to demonstrate attributes of the IB learner profile in real and practical ways, to grow as unique individuals and to recognize their role in relation to others." (*ibid.*). It might be reasonable to expect that schools are currently re-evaluating tried and tested Creativity activities to ensure that the strand activity clearly meets the new CAS guidelines.

4.2 Action strand

“Action: physical exertion contributing to a healthy lifestyle, complementing academic work elsewhere in the Diploma Programme.”

(International Baccalaureate Organization, 2008a, p3)

Activities for this strand are reported here as Sport, Exercise and Other (Table 4.2). The distinction between Sport and Exercise was made on the basis of competitive elements being disclosed and was contrived to facilitate presentation of results. Again, more frequently reported activities are presented at the top of the table.

Action Themes	Categories
Sport	<ul style="list-style-type: none"> • Soccer, Basketball; • Swimming, Badminton, and Volleyball; • long-distance runs (including half and full Marathons, 5ks and 10ks and fun runs); Tennis, Martial Arts and athletics; • Rugby, Hockey, Netball, Golf, Squash, Table tennis, Cricket, Boxing • Lacrosse, Walkathons, Scuba diving, Diving, Water polo, softball, handball, rounders, baseball, floorball, floor hockey, American football, Futsal, bi-/triathlons, Kabaddi, unihockey
Exercise	<ul style="list-style-type: none"> • Gym (including weight training), general fitness (included step, aerobics, circuits and vague responses about keeping fit), Yoga, Running/jogging, Dance • Trekking/hiking, PE/sports (including participation in school sports day as well as vague responses about 'general sports'), biking/cycling, • Pilates, Zumba, Ice/Figure skating, skiing/snowboarding, Thai boxing, horse riding, fencing, boat-related (includes sailing and rowing), climbing, Duke of Edinburgh (has an expeditionary element), watersports (including jet-ski, water-ski, windsurfing and surfing) • skipping, Parkour, skating (including roller blading), bob sled, Frisbee (including Extreme Frisbee), stretching, caving, Go-karting, bowling, archery, gymnastics, kayaking/canoeing, body combat, boxercise, shooting, self-defence, orienteering, walking, motor sports, dodgeball
Other	<ul style="list-style-type: none"> • beach clean-up, military training, camping, dog walking, gardening; • IB Retreat, medical ship building, laser tag, paintball, construction, Combined Cadet Force, kite surfing • bush clearance, manual labour, mangrove planting, youth club, library organisation, building a playground, lifeguard training, longboard, pool, an adventure camp, cleaning orphanage, exploring trip, physio for recuperation after knee operation, building bird trees, flight simulator, bird watching, army trip, organic farming and knife throwing

Table 4.2 Action Thematic Groups

4.2.1 What counts as a CAS Action activity?

The evidence shows that activity involving 'physical exertion contributing to a healthy lifestyle' is less clear in some undertakings than others. The popularity of organised team sports may indicate that schools have an important role as facilitators of the Action strand; consequently those students attending schools with good facilities and many opportunities to participate in sport and exercise can more easily fulfil the Action requirement. For many students, school PE, or participation in school sports day, is a key component in meeting this requirement. The physical exertion required in 'bird watching' may be questionable but its outdoor nature could be considered as contributing to a healthy lifestyle; it can be argued that 'knife throwing' requires physical exertion, although its health benefits may be doubtful; and the extent to which 'pool' might meet either aspect of Action is debatable. As with Creativity, this suggests that the way the strand is interpreted varies, resulting in a breadth of activities which fulfil the CAS requirement while supporting differing cultural contexts and individual student circumstances. Although not explicit in the 2008 CAS Guide, the 2015 Guide seems to recognise the importance of being flexible when it says that CAS requirements must be met "as is appropriate for each student" (International Baccalaureate Organization, 2015, p19). Consider this student, whose capacity to complete Action hours was dictated by their physical condition:

"Rebuilding the strength of my knee. About 2 years ago I needed surgery on my knee because I had ripped my ACL ligament and damaged a lot of other parts in my knee and I have been trying to get the capabilities of the injured knee close to the capabilities of my non-injured knee." (664)

For this student, time spent recovering from an injury incorporates physical exertion with the ultimate aim of being able to live a healthy lifestyle, having an impact of personal benefit as a result. Clearly, this school was flexible enough in its interpretation of the intended impact of the Action strand to consider this a valid interpretation of the requirements.

As with Creativity, the impact of Action on students' ability to fulfil the requirements of the programme and benefit from CAS as a holistic element of the IBDP may be related to the way it is understood within the school setting, and the flexibility with which it is applied to individual students' needs.

4.3 Service strand

"Service: an unpaid and voluntary exchange that has a learning benefit for the student. The rights, dignity and autonomy of all those involved are respected."

(International Baccalaureate Organization, 2008a, p3)

Responses to this strand referred to numerous charities, many of which were local and were difficult to identify in terms of the nature of the charity's work. To illustrate the range of responses, three examples follow, demonstrating how some were clear but others did not provide enough information to be able to code them.

Clear example: "sanggar anak indonesia: teaching English to underprivileged students" (737)

Less clear: "Sister nivedita ashram" (599)

Difficult: "Insignia" (735)

For this reason, the four categories of action for Service – direct service, indirect service, advocacy, and research (Berger Kaye, 2010) – were not useful themes. The findings (summarised in Table 4.3) are based on analysis of those responses which were clearly identifiable and, as with Creativity and Action results, are presented with the most popular activities at the top.

Service Theme	Category
Volunteer or help: at school	<ul style="list-style-type: none"> • school-based event • unspecified e.g. helping out at school • MUN/ student council • peer counselling mentoring • position of responsibility • fund raising for school
Volunteer or help: with/for charity	<ul style="list-style-type: none"> • children's charity • medical/ health related (including mental health) • poverty/ helping the underprivileged • eco/environmental activity • animals • the elderly • disability • vulnerable people/ refugees • social equality • unclear
Volunteer or help: in the wider community	<ul style="list-style-type: none"> • sporting event • cultural event • military/community service or training • children's organisations • online volunteering • community health • church/religious service • other e.g. initiated a nursery
Volunteer or help: other	Non-specific event or activity <ul style="list-style-type: none"> • teaching or... • tutoring or... • coaching • participant in school club, committee or performance • CAS/service trip or project without specific details • fund raising where beneficiaries were not reported • Bake sales (with unclear beneficiaries) • GIN/NHS • childcare

Table 4.3 Service Thematic Groups

4.3.1 What counts as a CAS Service activity?

Volunteering for school, charity or the wider community are all platforms from which students can hope to gain new experiences and “a learning benefit” (International Baccalaureate Organization, 2008a, p3). The range of experiences is evidently wide, and many students pursue several different

activities during the course of completing their Service requirement. Some are happy to remain within the school boundaries of what their school can provide:

“Linguistics club, programming club, running club (track), biology club, and an audiobook club” (628).

Alternatively, there are others who take the opportunity to grasp issues relating to the wider world:

“ongoing project at Rotary B of interacting with the kids from Mother Teresa Ashram – new literacy project of teaching at municipal schools – led an awareness campaign against cervical cancer – zoo visit with kids – tree plantations – was part of the managing committee of a fundraising event called Surmayi Saanj which was undertaken by Rotary Club of R G to raise money to donate kidney dialysis machines to a hospital” (609)

This stands in some contrast to the response: “helping old people cross the street” (712). Some students manage to combine Service with their interests, as with the respondent who explains, “Knitting club (the goal of the club is to make scarves for the refugees)” (371). It is more difficult to understand, for instance, the learning benefit of these Service activities (X is used to anonymise the respondent's locale):

“Acting as a stagehand at X, a local music festival. Traffic control at the X Marathon. Acting as a guide at an event for language teachers. Acting as a guide at the 150th anniversary of X” (119).

For the Service strand, as for Action, the school is central in facilitating students' opportunities to fulfil their CAS requirement. Some students mention ‘Service clubs’ (4178) or Charity Clubs (4164) which are school-run extra-curricular clubs where students can be supported in choosing, planning and executing their Service activities.

As noted with regard to Creativity and Action, the interpretation of CAS requirements is informed by the local context, but for Service this extends beyond the school gates and is especially closely entwined with local cultures and traditions of volunteering, charity and expectations of students' duties. It is concerning, therefore, to read that students' Service activities include playground supervision (687 and 688) or physical labour, as in these examples:

“rebuilding a wall near my school garden, school maintenance” (700)

“voluntary labour in a sawmill” (4007).

This is a worrying interpretation of the CAS 2008 Guide, with more focus on the “unpaid” element of these students' Service activity than is acceptable, raising questions about how schools' child protection systems monitor students during off-site CAS activities. The 2015 CAS Guide may address this in part when it specifies that Service should be a collaborative and *reciprocal* engagement with the community in response to an authentic need, and recognises that the impact on the student and the impact of their actions on others may be greater when encountering those in genuine need.

4.4 The CAS Project

“Students should be involved in at least one project involving teamwork that integrates two or more of creativity, action and service, and is of significant duration.”

(International Baccalaureate Organization, 2008a, p12)

The student online survey revealed that the majority of students' activities meet the CAS Project requirement to combine one or more strands (Figure 4.2) and although there is more certainty evident amongst Coordinators (Figure 4.3), they were not given the option to select 'I'm not sure'.

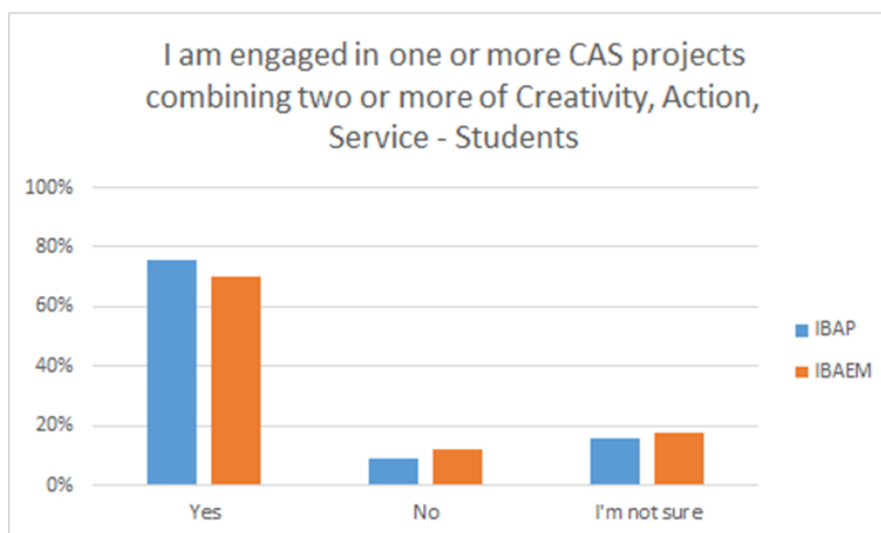


Figure 4.2 CAS projects combining more than one strand: students (by region)

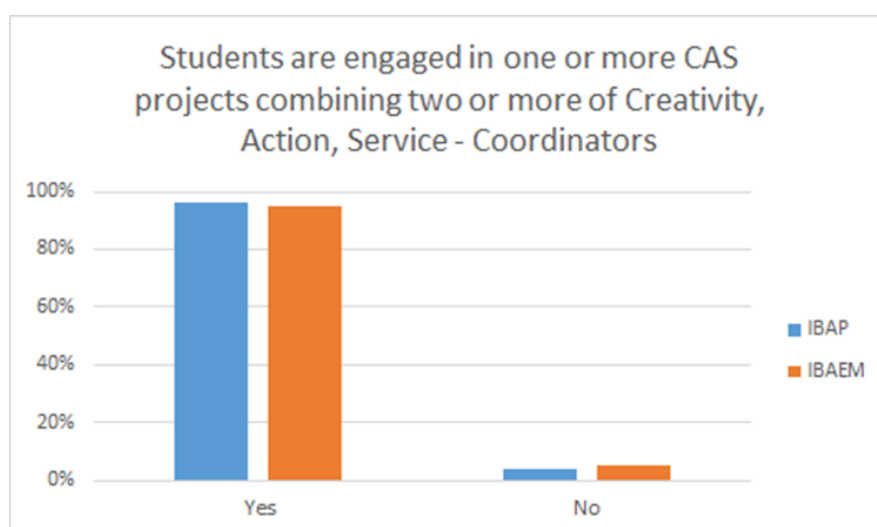


Figure 4.3 CAS projects combining more than one strand: CAS Coordinators (by region)

The open responses on the student survey did not always identify projects strand-by-strand, although the findings show how important charity work is in fulfilling the Project criteria (Table 4.4), and indicate that Service is a popular strand to include. Within the categories under the Charity theme, 'Fundraising' was kept distinct from 'Action'. The former included bake sales and sponsored events, where the latter were more likely to take students out of school to encounter people and places where their Project had a direct impact on communities. Face-to-face encounters with people in need may have an impact on students as well as on the communities in which the Project takes place.

Project Theme	Category
Charity	<ul style="list-style-type: none"> • Fundraising • Action • Helping needy others • Helping animals
School	<ul style="list-style-type: none"> • School event • School community
Educational	<ul style="list-style-type: none"> • Raising awareness • Educating others • Environmental
Other	<ul style="list-style-type: none"> • Unclear as project • Unidentifiable activity

Table 4.4 Project Thematic Groups

The school was found to be a source for project activity more for students in AEM than in AP, while educational activities were more prominent in AP. More responses were categorised as unclear ('I'm not sure') in AEM than in AP, as the quantitative analysis shows (Figure 4.4).

4.5 Summary of themes evident in CAS activities

A great variety of projects and activities are undertaken to fulfil CAS and, although Coordinators consider that activities are not generally organised by theme (Figure 4.4), qualitative analysis found that in fact there are recurrent themes across regions.

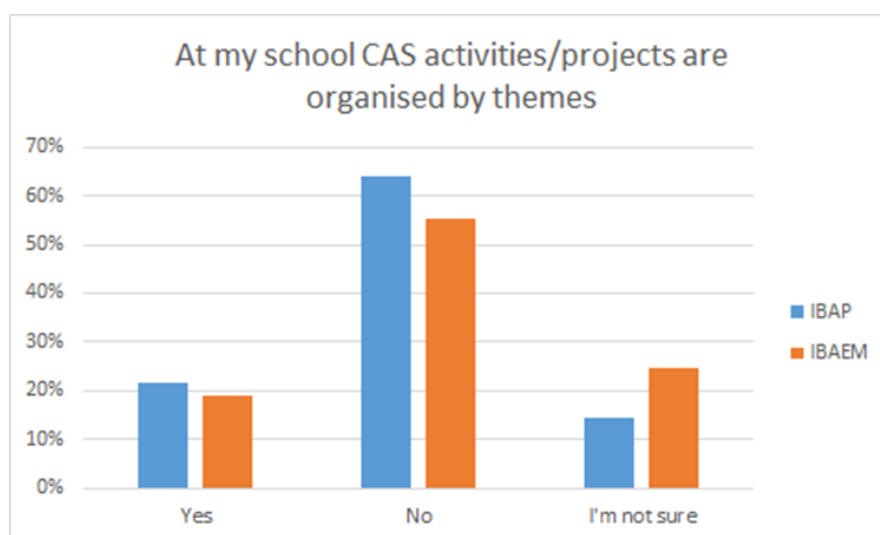


Figure 4.4 CAS activities/projects organised by themes: CAS Coordinators (by region)

Regional analysis of the data found many commonalities and few differences in the CAS activities underway in the two world regions. By region, perceptions tended towards consensus with regard to what counted towards the strand requirements even though the CAS requirements are enacted in a

variety of ways in local contexts. This suggests that the interpretation of the CAS Guidelines is remarkably consistent given the wide range of settings in which it is implemented, leading to the conclusion that CAS requirements are clearly conveyed which, in turn, strengthens the potential impact of the programme on students.

With regard to the impact of CAS on communities, it is apparent that while activities remain within the school boundary, the impact will be less marked than in those cases when students are encouraged to venture beyond the school gates. Having said this, there is another sense of community within school which includes younger children, sister-institutions and parents and families who all form a part of the wider school community. A project involving setting up a school-wide Recycling campaign (225), for instance, has the potential for more extensive impact and influence than only within the school.

There is a tension between inconsistency and coherence which may be viewed as a paradox of the IBO: while conceding that inconsistency in CAS activities is an inevitable consequence of the range of IB World School contexts where it is implemented, it is also the case that the potential impact of the programme rests on a coherent interpretation of IB values. Being mindful of achieving a balance between the specific cultural context and the implementation of an international curriculum is a requisite for this part of the IBDP. The perceptions of students and alumni on the motivators, challenges and benefits of the CAS programme now follow.

5. Findings: perceptions of students and alumni – motivators, challenges and benefits

Moving on from concrete examples of activities being undertaken in fulfilment of the CAS requirements, this section of the report presents evidence that the programme is perceived positively by those involved in it currently and, in the case of alumni, in reflecting on the past. Specific motivators are identified and the perceived challenges and benefits of the programme are reported.

5.1 General findings of the impact of CAS on students and alumni

Participation in the wide range of activities identified in the previous section was perceived to contribute to changes in IB DP students in terms of their personal dispositions (communication skills; open-mindedness; confidence; independence), their behaviour (accepting new challenges; accepting new roles; aware of their own strengths; aware of further areas for growth) and changes which are others-related (interpersonal skills; responsibilities to other people; collaboration and, overlapping from personal dispositions, communication skills).

That there should be such close agreement concerning the highest rated changes during CAS participation across all respondent groups for eleven different items is a strong indication of the impact of the CAS programme in supporting development and progression in learning for such areas.

Findings suggest that the impact of CAS is perceived similarly by all three sets of stakeholders in developing a range of positive attributes (Figure 5.1). Calculation of weighted means shows a consistent order in the strength of agreement between stakeholders:

Coordinators > Students > Alumni

CAS Coordinators consistently highly rate each of the items relating to changes in student characteristics, when compared with both the student population (next highest) and the responses from the alumni (lowest). The reasons why this may be so are discussed in the more detailed analysis below (Section 6), but may reflect direct observation of the changes on the part of the Coordinators as well as their sense of responsibility for the success of the programme.

Eleven attributes commanded the highest level of agreement across all three stakeholder groups as having developed during the CAS programme. These are shown at the centre of the Venn diagram (Figure 5.1) while other attributes with highest-ranking agreement levels are shown within or between particular groups.

Agreement between stakeholders:

collaboration, communication skills, open mindedness, confident, independent, aware of areas for future growth, aware of my own strengths, accepting new roles, accepting new challenges, responsibilities to other people, interpersonal skills

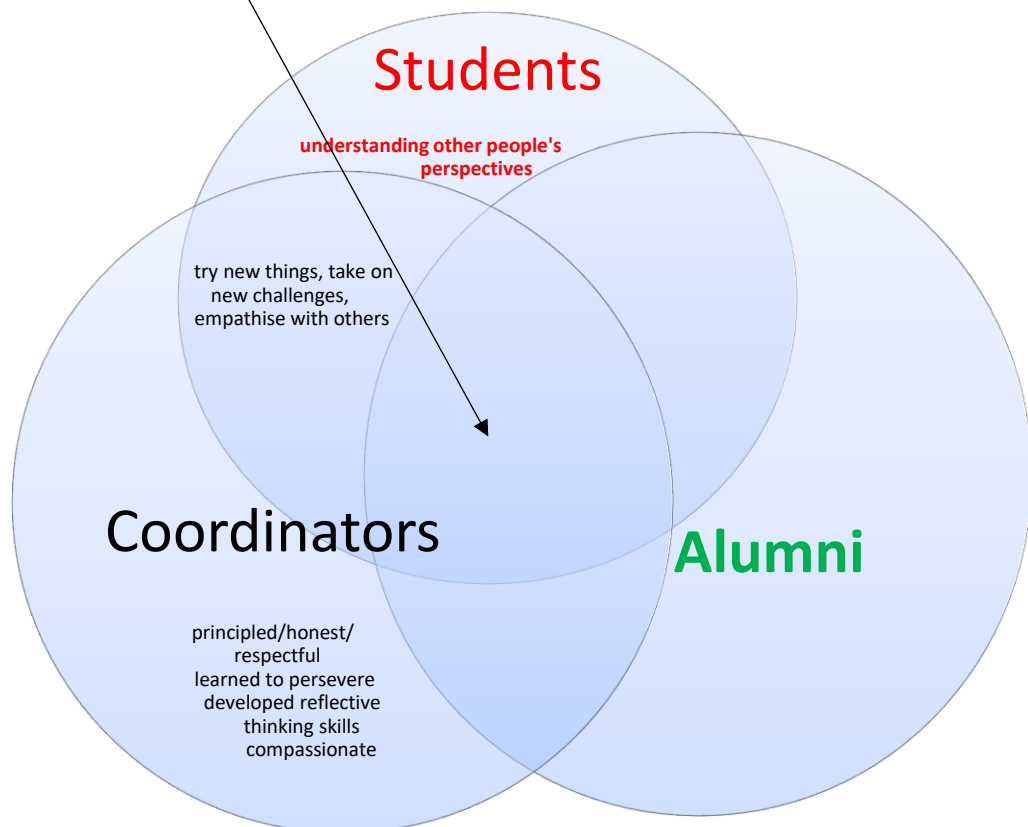


Figure 5.1 Distribution of shared highest rank items across all stakeholder groups

The following results break down the impact of CAS as resulting in changes in or development of a range of attributes linked to the desired outcomes of the IBDP. Findings about the development of attributes are presented before results relating to changes attributed to the CAS programme are shown.

The development of attributes which IBDP students – past and present – may have already possessed, and which stakeholders perceived to be attributable to CAS, shows levels of agreement which are mostly above 90% (Figures 5.2-5.4).

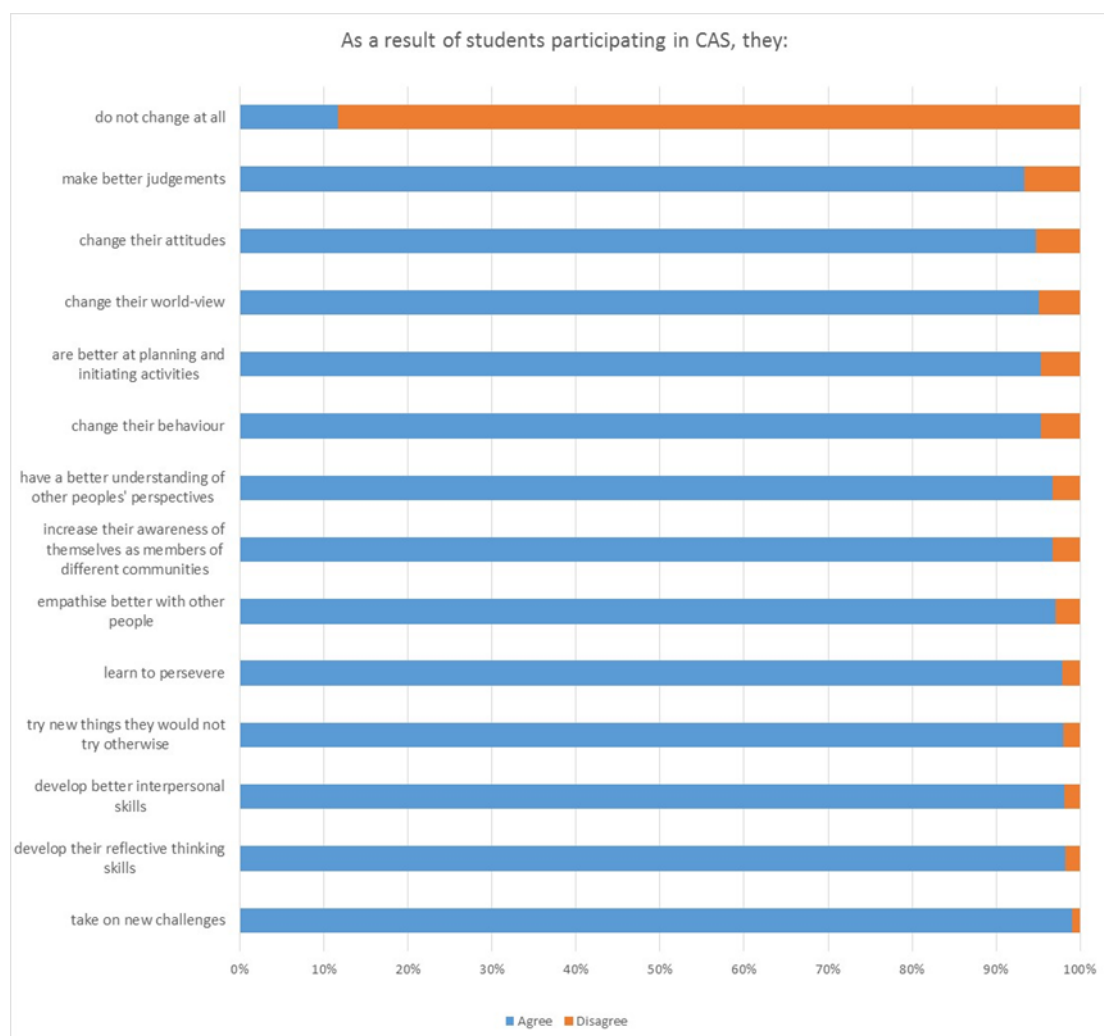


Figure 5.2 "As a result of students participating in CAS, they ..." according to CAS Coordinators

When the agreement average across all categories was calculated it was found that CAS Coordinator agreement levels report at around 91% (Figure 5.2), student agreement at 76% (Figure 5.3), and alumni agreement at 68% (Figure 5.4). Later in the report, the Coordinators' data is disaggregated (Figure 6.1) to illustrate how strongly cohesive this stakeholder group's opinions are.

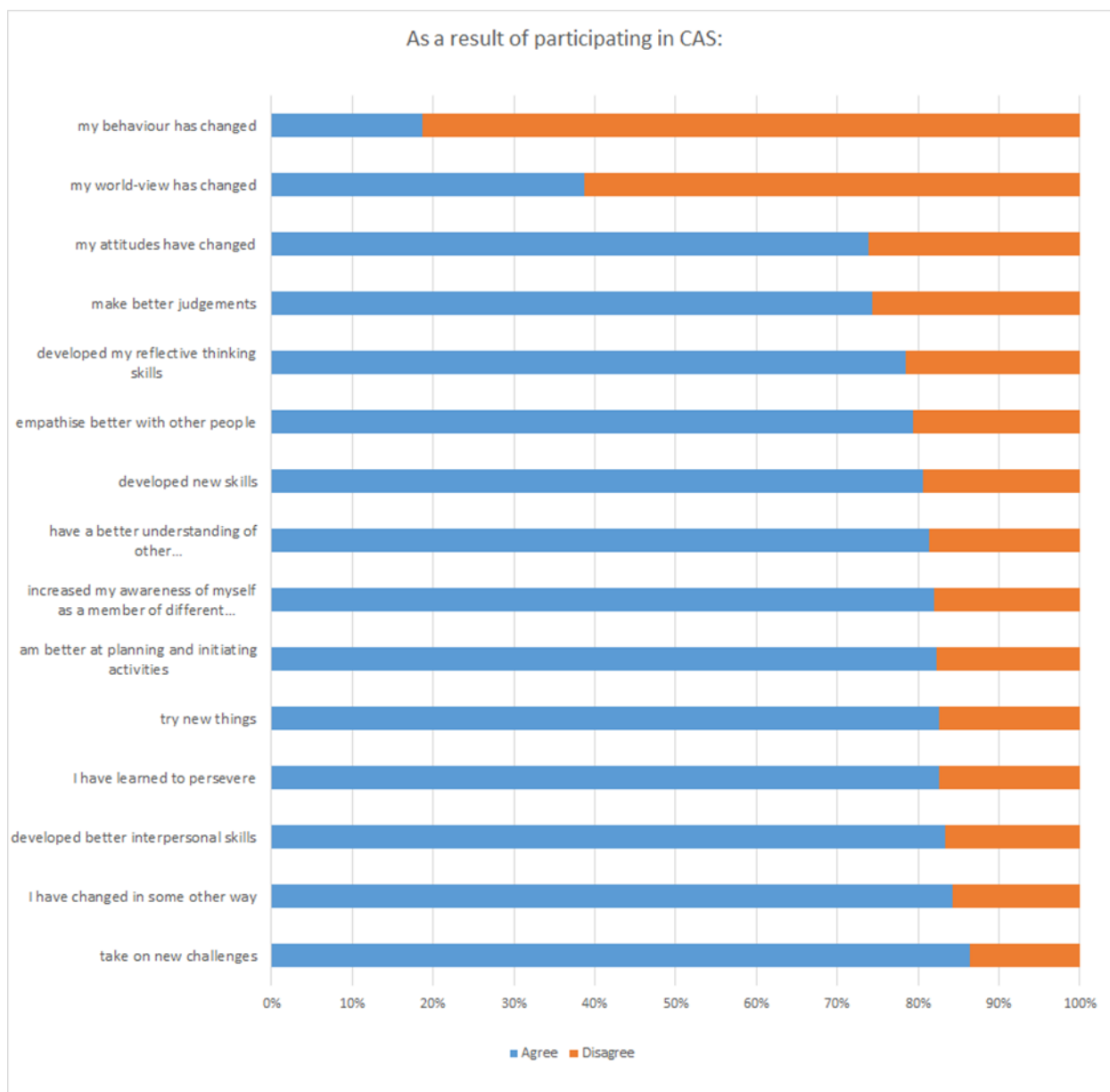


Figure 5.3 “As a result of participating in CAS...” according to students

The difference in the level of agreement between students and Coordinators may be indicative of the relationship each stakeholder has with the evaluative process of judging learning outcomes in CAS; it could be that students are stricter judges of themselves with a reference point different from that of Coordinators, which perhaps derives from a broader picture. Something which is perceived to be a small change by a student might be interpreted to be greater by the Coordinator – or *vice versa*. In the absence of a detailed descriptor for criterion-referencing upon which judgement can be made, both students and Coordinators will naturally default to a norm-referenced judgement of themselves against other students completing or who have completed CAS, and the ideal of what that should mean. Alternatively, if Coordinators feel that student success in CAS learning outcomes is ultimately their (Coordinators’) responsibility, they may be overestimating students’ performance to validate, albeit without conscious intent, the impact their efforts as a CAS Coordinator have had.

There is some similarity of perceptions about the attributes upon which CAS had the most and least impact. All three groups of stakeholders included, in their top 5 highest levels of agreement, that CAS

helped them become better at 'taking on new challenges', at 'learning to persevere' and at 'developing better interpersonal skills'. There were commonly low levels of agreement, with all three groups identifying in the bottom 4 responses, on the impact of CAS in leading students to 'make better judgements' or change their 'world view'. Several notable differences between coordinator perceptions (higher levels of agreement) and students (lower levels of agreement) were regarding changing behaviour, changed world view, making better judgements and developing reflective skills.

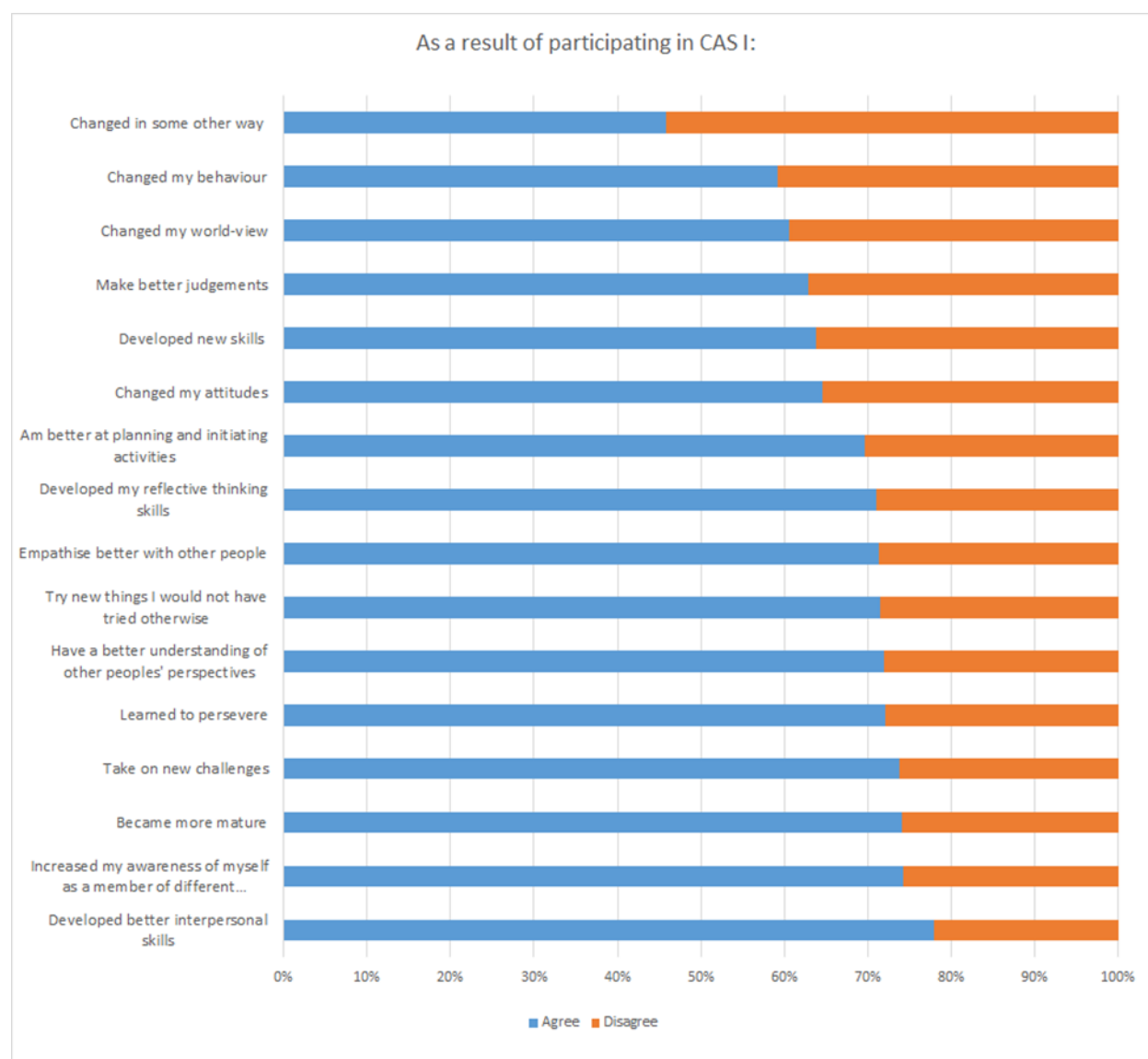


Figure 5.4 "As a result of participating in CAS I ..." according to alumni

There is a difference in perception between students, past (alumni) and present, and CAS Coordinators when considering the impact CAS has in changing behaviour: although Coordinators' agreement was stronger than that of the other two stakeholders, their perception that CAS changed behaviour was sixth lowest while the other two groups had the weakest (students) and second-weakest (alumni) levels of agreement about the impact of CAS. That agreement was weakest on the impact of CAS in changing students' behaviour relates directly to the potential impact of the over-arching aim of the IBO: to encourage students to be "active" in helping to "create a better and more peaceful world" (International Baccalaureate Organization, 2016a).

The benefits which students perceive to have developed due to participating in CAS are discussed below in Section 5.4 and, for alumni, in Section 5.5. Motivation, considered to have an impact on students' commitment to be involved in CAS activities, and the range of motivating factors is the subject of the following section.

5.2 Students' motivation to participate in CAS

Due to the holistic outcome of CAS strands and their intertwining to comprise CAS projects, motivation to participate in the programme generally is presented as a range of factors (Figure 5.5) and people (Figure 5.6).

The highest level of agreement over the range of factors in the survey (Table 5.5) was that relating to CAS being a requirement of the IB Diploma (84.5%). This finding contrasts with that of Billig and Good (2013) who reported that most students they surveyed in the IB Americas region were motivated by altruistic or humanitarian reasons, what they term as affective motivation, while pragmatic considerations (what Billig and Good term practical motivation) played the least prominent role. The student survey in the present project shows clearly that students' enjoyment is a significant motivator, having the second-highest level of agreement amongst students, suggesting greater student motivation to participate in CAS activities when they are enjoyable.

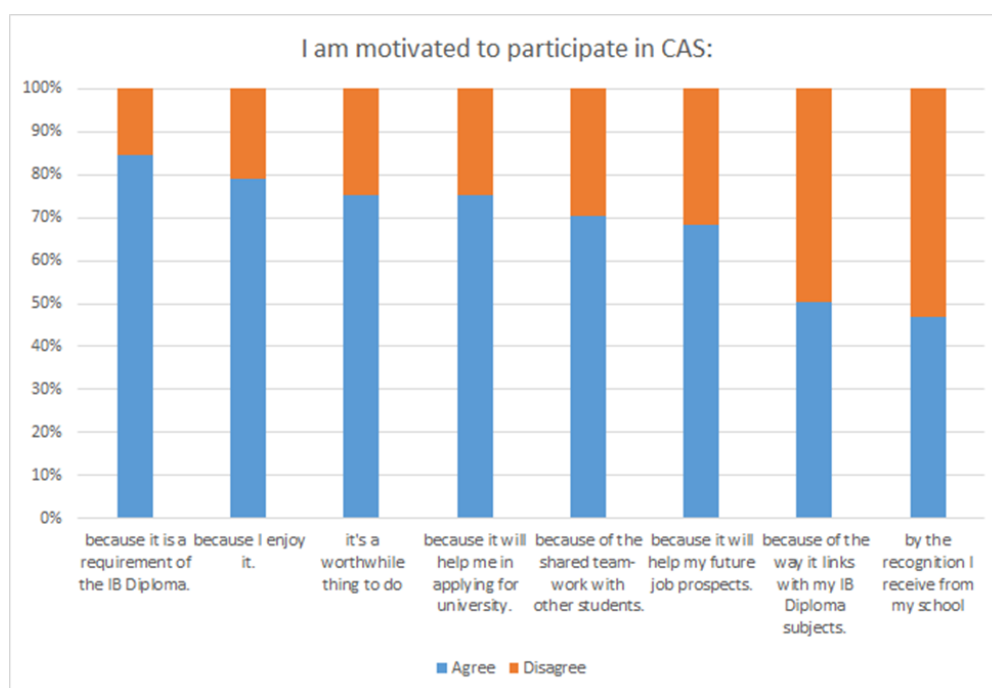


Figure 5.5 Motivators to participate in CAS (factors)

Figure 5.5 also shows that students' lowest agreement concerned motivating factors relating to the recognition they receive from their school and links with their IBDP academic subjects. These findings lend support to the claim that students “do not fully appreciate the link between their academic subjects and their CAS activities” (Brodie, 2014, p15).

Figure 5.6 shows students' agreement in identifying motivating people was strongest for the recipients of their Service activities (77%), followed by their CAS Coordinator (71%) and CAS supervisor (67.5%).

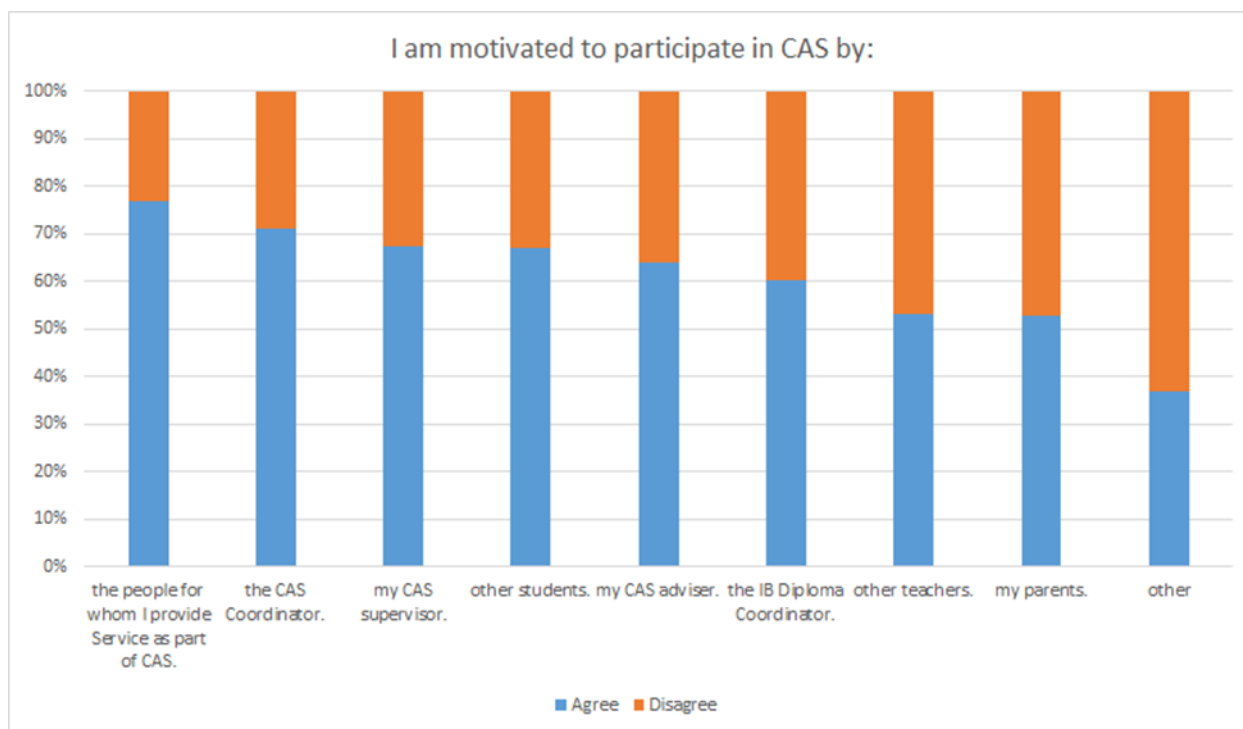


Figure 5.6 People motivating students to participate in CAS

Figure 5.6 shows that the first, fourth, seventh and eighth categories correspond to an affective relationship, while the second, third, fifth and sixth categories relate to the students in a relationship defined by more formal interaction with people having an institutional responsibility in supporting students in their CAS participation. Only around 50% of students agree that non-CAS teachers are acting in a motivational capacity, suggesting that CAS is not always perceived as integrated throughout schools. How students' CAS experiences connect to their subject specialisms in the teaching and learning context is an important factor in ensuring CAS has an impact on students, and these results may indicate the need to improve CAS/subject connectivity.

Perhaps surprisingly, only 52.9% of students agree that their parents motivate them to participate in CAS activities. Some revealed that parents do not always value CAS – for instance, “My parents favour studying over CAS” (1721)² – and that even after two years, “My parents still don’t understand the concept of CAS” (7904). Perhaps some parents' understanding of CAS could helpfully be improved because, as reported in Section 8, parents seem to have a greater influence on the general outcomes of CAS than students are aware of.

Because 37% of students identified ‘others’ as playing a motivational role in their CAS programme, qualitative analysis was conducted on the responses of those who took the opportunity to respond to the invitation to comment further. By far the most numerous responses were those from students claiming to be motivated by “myself”. Peers, previous students, ‘friends’ and family showed a refinement of the options available in the survey. In the case of ‘friends’ this, for example, distinguishes an important subset of ‘other students’ and may link with motivators of enjoyment as well as having fun, which are presented in student responses about the benefits of CAS. Certainly this was the case for one student who wrote “I do more CAS when I enjoy it” (7830).

² Numbers presented after quotes provide a non-identifiable audit trail of respondent and data source.

'Family' included more than just parents; for instance, an aunt who was a human rights lawyer (3673). Some responses related motivation to self-improvement:

"It was mainly myself, as I have a love for learning. To learn about myself is very rewarding, and helps me develop as a person. I know I can use these skills when I work with others." (7121)

... or, more expansively, being motivated by "[the] rest of the society" (415) and aiming to "be a better human in the community" (4808). Motivating adults outside school included coaches and specialist teachers, such as "my national field hockey team coach" (1239) while, within school, sometimes specific teachers were identified such as "[my] Form Tutor and HE advisors" (738). There were students for whom CAS was nothing new:

"I would have done these activities even if CAS didn't exist." (7354)

Lindemann (2012) found that going beyond the familiar was likely to spark transformation in students, and a question thus arises about the transformative impact CAS can have on these already-active young people. Individualisation of CAS activities may help ensure that novel activities are found for all students with the aim of maximising the impact of CAS: one student's motivation was "My YouTube fans" (6923). Another strategy is to create a CAS culture in schools, as this student explains: "we all just do CAS" (7155). Some students used the open questions as an opportunity to express strongly their dislike of CAS:

"No one motivates me to do CAS, even if they try I utterly hate it." (4598).

This exemplifies a vocal and articulate group who claimed not to be motivated in the least to participate in CAS. Results in Sections 5.4 below show that, even when students were asked to identify benefits of the programme, negative perceptions surfaced. Given the importance of enjoyment as a motivator, lack of it might reasonably be concluded to have a *demotivating* effect.

5.3 What aspects of CAS do students and alumni find most challenging?

Students perceive CAS to be difficult, seeing it as a challenging element of a challenging programme as shown in Figures 5.7 and 5.8 below. They identify Service as the most difficult of the three strands (85.4% agreement) but also recognise it as rewarding. This is in keeping with findings from Lindemann's study with DP alumni (2012) which found that CAS experiences of greatest transformational value to the students were those which had also represented the greatest challenge. Figure 5.7 clearly shows particularly high levels of agreement, suggesting the impact of the strands, and Service in particular, is widely perceived in terms of being rewarding.

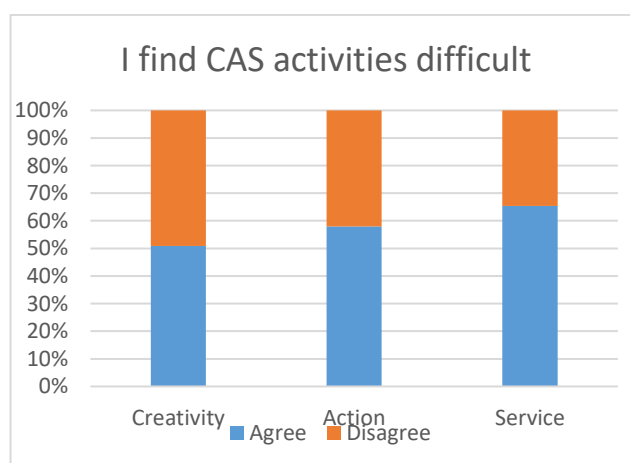


Figure 5.7 Difficulty of CAS activities (according to students)

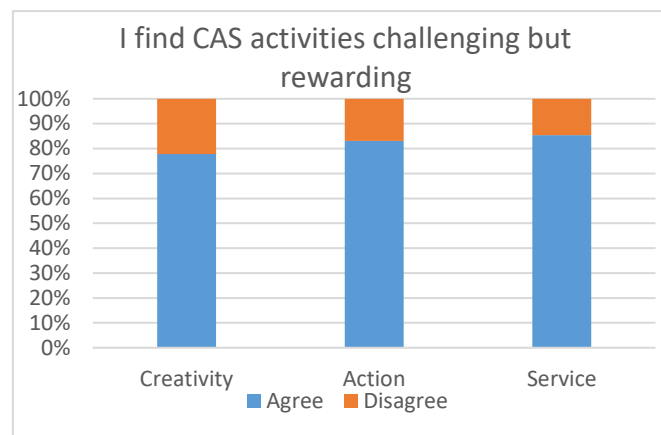


Figure 5.8 CAS activities challenging but rewarding (according to students)

When considering whether CAS was difficult, alumni (Figure 5.9) had lower levels of agreement (40.6%) compared to students (Figure 5.7) whose agreement levels ranged between 51% and 65% across the three strands. This could be attributed to the accrual of life experience, giving alumni a broader sense of perspective from which to judge the difficulty of CAS, a point supported by qualitative analysis (Table 5.2 below).

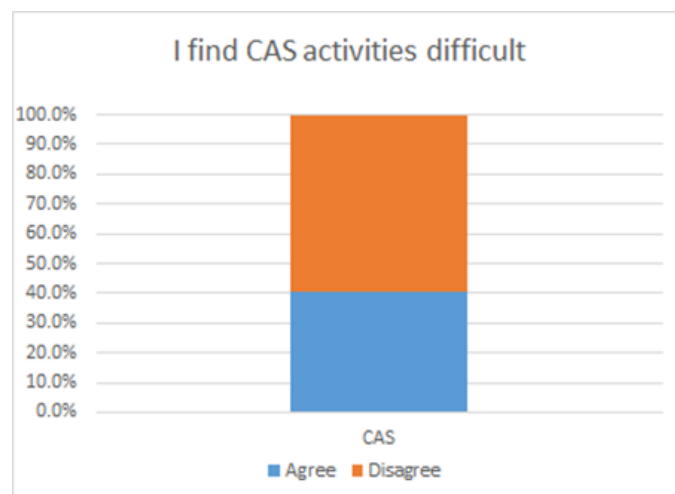


Figure 5.9 Difficulty of CAS activities (according to alumni)

Regarding the question of whether CAS was 'challenging but rewarding', alumni responses (Figure 5.10) were more similar to those of the students, at 74.8% and upwards of 77.8% levels of agreement respectively. This suggests that a sense of reward endures beyond the programme, as does the perception of its challenges which may connect with the impact of the programme as incorporating new experiences into the lives of IBDP students.

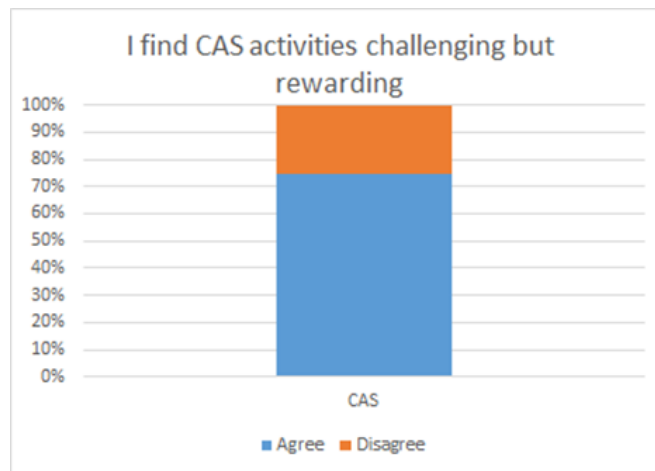


Figure 5.10 CAS activities challenging but rewarding (according to alumni)

Lindemann (2012) reports that for alumni, CAS experiences with the greatest opportunities for self-discovery were those that exposed them to different realities and social disparities, when they were taken outside their comfort zone and the ‘protective bubble’ of the school context. This evidence lends further credibility to the claim that CAS in particular, and experiential learning in general, is most challenging and has most impact as a transformational experience when it is novel to learners.

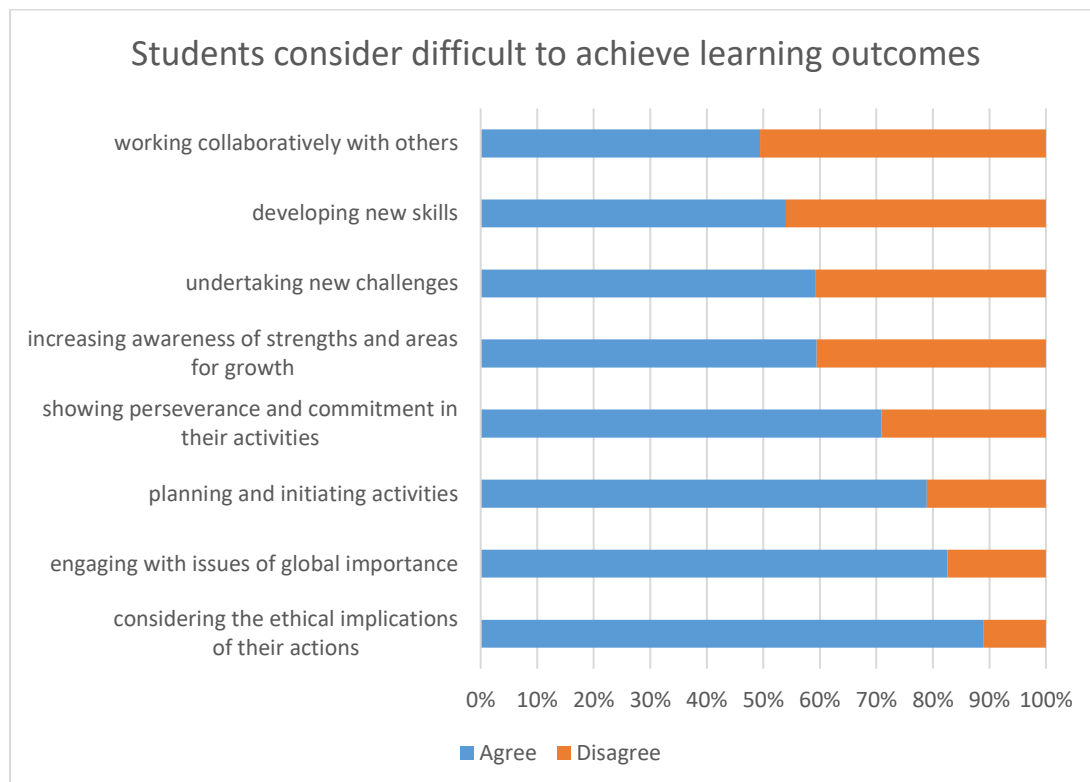


Figure 5.11 Outcomes considered difficult to achieve by students, according to CAS Coordinators

Perceptions that CAS is a challenging aspect of the IBDP are confirmed by Coordinators (Figure 5.11), who agree most strongly that students find ‘considering the ethical implications of their actions’ most difficult to achieve (88.9%). Undertaking new challenges is the third category which Coordinators believe students find difficult to achieve, suggesting that CAS allows the opportunity for students to become more adventurous, a suggestion supported by the students' qualitative data (see Table 5.3). Even the lowest level of agreement amongst Coordinators, for collaborating with others, shows that almost 50% perceived students finding this difficult to some extent. The motivators identified by students (Figures 5.5 and 5.6) show high agreement on the importance of ‘enjoyment’ and ‘other students’, which suggests that schools that encourage collaborative student activity on CAS strands and projects may be facilitating increased student motivation while doing so.

5.3.1 Students' perceived drawbacks of CAS

Quantitative findings indicate that there are some drawbacks associated with CAS. For instance, as reported in Figure 5.13, distinct minorities disagree that CAS prepares them for future life (26.6%) or for university (19.3%). Later in the report, findings are presented which suggest that criticism of the CAS programme may be stronger in AEM region than in AP (see Figures 7.9 and 7.10).

Qualitative data analysis found further details in students' completion of the sentence “For me the drawback(s) of doing CAS is (are) ...” (Table 5.1).

Drawbacks Theme	Category
Time-consuming	<ul style="list-style-type: none"> • Took too long • Competes with academic work/hard to fit it into the DP • Infringement on leisure time
Its mandatory nature	<ul style="list-style-type: none"> • CAS is compulsory • CAS becomes onerous • CAS is irrelevant/meaningless
Bureaucracy	<ul style="list-style-type: none"> • Drawbacks linked to written record of activities
CAS is difficult	<ul style="list-style-type: none"> • CAS is stressful • Dislike doing unenjoyable strand(s) • CAS associated with personal challenge • CAS is tiring • Hard to balance the 3 strands • CAS has dubious motives
Difficult to achieve outcome	<ul style="list-style-type: none"> • Expectations not met in some way • Rigid definition of CAS activities
Confusion about CAS	<ul style="list-style-type: none"> • Parts of the system opaque to students
Pragmatic difficulties	<ul style="list-style-type: none"> • CAS is expensive • Problems finding opportunities to fulfil the CAS activities

Table 5.1 “For me the drawback(s) of doing CAS is (are)...” according to students

As Table 5.1 shows, the time-consuming nature of CAS was perceived by many as a drawback. It should be noted, however, that minimum-hours strictures have been lifted in the new CAS specifications (International Baccalaureate Organization, 2015) and may have less of a perceived negative impact on students graduating from 2017 onwards. A separate thematic analysis explored the perception that Service was particularly time-consuming, finding that this was for largely positive reasons. Students' enjoyment of the strand, or their view that it was the most important or flexible – the "go-to strand" (2216: AP) – led to it occupying much of their time; feelings that Service was beneficial to others and themselves and was, therefore, worth taking time over were further reasons; additionally, students recognised as contributory the complex and sensitive nature of their Service experiences with charity beneficiaries, the time needed to build relationships with the people they were involved with and, for some, the abundance of opportunities to participate in in this strand:

“My school has scheduled weekly Service into the timetable so it inevitably happens more often than any Creativity or Action I try to do myself” (1429: AP)

However there was also resentment expressed by students who perceived CAS as “compromising school work” (169: AP) and “[Taking] time away from doing more important things, such as Extended Essay and various IAs” (137: AEM). That it is seen as a distraction from studies by some may reflect the relative importance placed by some schools on academic outcomes at the expense of CAS.

Some students questioned the apparent paradox of mandatory Service; others perceived CAS activities as turning their non-academic leisure time into something more burdensome. Some students complained that they perceive CAS as something empty or irrelevant, which may detract from its potential to have a meaningful impact. The arduous nature of written reflections relates to the perceived time-consuming nature of CAS and is often very forcefully identified as a drawback, as in the following response:

“THE REFLECTIONS ARE HORRIBLE! STOP MAKING US TRY TO WRITE OUT ALL OF OUR EMOTIONS.” (136: AP) (*emphasis in original*)

These responses suggest that the understanding of some IBDP students about the nature of CAS and its role in the Diploma Programme is not fully developed. Other responses, which perhaps reflect the youth of the respondents, note that CAS makes them do things they find difficult or tiring, but indications that CAS is expensive or hard to organise has implications for the relative impact on these students compared to that on students in schools, or from backgrounds, where this is not a problem. Expectations of the potential impact Service can have in communities outside school may be inflated, leading to outcomes which disappoint students. Schools can clearly play an important role here in establishing with students at the outset a realistic sense of the likely impact of their endeavours. An onerous CAS schedule may have repercussions on student well-being by encroaching on students' unstructured time when they can relax, if it is not carefully balanced.

It is reiterated that the programme is perceived largely in a positive light. However, given the significant motivator of enjoyment, perceived drawbacks have implications when considering the transformative potential of CAS: if CAS is not enjoyed or is even resented, how likely is it to lead to meaningful educational outcomes?

5.3.2 The challenges of CAS perceived by alumni

Difficulties alumni perceive in relation to the programme are interesting to compare with those of current students, although alumni criticism of the programme should be considered in context since, for some respondents, the programme has already changed since they graduated. Table 5.2 shows that there is some overlap between students and alumni in the challenges they perceive; both

mention the time-consuming nature of the programme and the struggle relating to the reflections and accompanying paperwork.

Drawbacks of CAS	Categories
Problems with CAS	<ul style="list-style-type: none"> • Criticism of school or programme • CAS is vague
'Fakery'	<ul style="list-style-type: none"> • CAS can become perfunctory • Achievements fictionalised
Bureaucracy	<ul style="list-style-type: none"> • Dislike of reflections
Too time-consuming	<ul style="list-style-type: none"> • Addition to already onerous workload

Table 5.2 Drawbacks of CAS, according to alumni

Table 5.2 indicates that alumni gave more weight to problems they perceived about the programme itself and the issue of faking experiences in order to pass the Diploma. It is understandable that current students in the process of working towards the Diploma may be more reluctant to write about this aspect than those who have already graduated. As noted above, there may also be a different perspective gained by alumni who have left the school environment and have a broader perspective on life. Criticism varied from school-specific issues with resources or staff to more general problems, such as CAS being regarded in the school:

"as 'something additional' or 'ticking the box'. The school is (or was) more focussed on the academic aspects of the IBDP" (76)

The vague nature of CAS was a complaint of alumni, suggesting that they received less guidance than they would have liked. Lax supervision may have contributed, along with pressures to complete CAS to pass the Diploma, to 'fakery'. This, according to some alumni, was doing "the minimum in order to get the Coordinator to pass them" (469) or pretending that they had done their hours in order to have those boxes ticked (646):

"Many of my claimed hours were dubious, a few were fraudulent, and I am certain the school knew this and turned a blind eye. Obviously everyone wanted me to pass, including myself." (646)

The collusion implied in this quote acknowledges the high stakes of the IBDP and the pressure which exists – on students and on schools – to maintain or improve pass rates. As a time-consuming and uncredited pass/fail element of the IBDP, CAS is perceived by some as a hindrance. Strategic approaches to completing CAS may have an effect on the potential of the programme's impact, as will a perfunctory approach to its completion:

"Having to write a diary entry after every activity often felt forced and kind of pointless. I agree that it's useful to reflect on your experiences, but it's difficult to find something kind-of-profound to say after each dancing lesson, for example." (278)

Participating in the wrong activity is perceived as a drawback for students and alumni alike, one alumnus noting that "picking up trash on a beach is unlikely to change anyone's attitude to the world"

(203). For alumni, as for students, it appears the range and extent of the impact of CAS is likely to relate to how meaningful the activities are for students:

“CAS should be more meaningful. Candle-making is barely a CAS activity.” (102)

It follows that where it is possible to arrange CAS activities that are rich, well-focused, and meaningful to students, the experience is more likely to have an impact on them. This, in turn, feeds the aim of the transformative potential of experiential learning. Some alumni identify the impact of the geographical location of their school as a place which could either limit their CAS experience (415) or make it amazingly transformative (417). And, reflecting the variety of geographical contexts in which CAS is undertaken, there are within that a huge range of schools and students, resulting in a complex mix of variables. However, as one alumnus writes:

"Schools should be encouraging students to reflect in a manner suitable to their personalities, eg. 1:1, small group, writing, other." (441)

The impact of CAS may be closely connected to a student perceiving it as an individually meaningful experience. Ideally, schools would personalise individual students' participation in CAS: independent and proactive students would be able to make their own arrangements while less experienced and uncertain students receive more guidance. And finally, alumni benefit from hindsight, with some noting that, in retrospect, they see a worth to CAS that they did not see at the time:

“CAS was not something I really appreciated until much later – after uni, and well into professional life. From where I stand now, it was incredibly valuable” (660)

Alumni perceptions of enduring benefits to CAS, not all of which were obvious to them at the time of undertaking the programme, need to be remembered when considering the perceived impact of CAS according to current students. Below, further evidence is presented showing the perceptions of alumni on the enduring impact CAS has had on them since they completed the IBDP (Section 5.5). Prior to that are reported current students' perceptions of the benefits of CAS.

5.4 What benefits do current DP students gain from undertaking CAS?

In Section 5.1, general perceptions of the impact of CAS were presented that included identifiable changes in students' attributes. Here, those findings are added to by showing how students perceived CAS to have *developed* their already existing attributes. In accordance with the four-part criteria that direct what is accepted as a legitimate CAS experience, activities undertaken by a student as part of CAS must “provide opportunities to develop the attributes of the IB Learner Profile” (International Baccalaureate Organization, 2015, p15). The ten attributes of the IB Learner Profile, as noted earlier in this report, are:

- inquirers
- knowledgeable
- thinkers
- communicators
- principled
- open-minded
- caring
- risk-takers
- balanced
- reflective

As can be seen from Figure 5.12 (below), the response from students with respect to attributes which contribute to development of the IB Learner Profile shows that more than 70% of students agree that their participation in CAS has helped develop all the attributes.

Figure 5.12 also shows the highest percentage returns were for “communicative” and “collaborative”, both at 89.8%, and the lowest percentage returns were for “critical in my thinking” and “curious and questioning”, represented at 75.6% and 73.9% respectively. Students identify participation in CAS to have had the most impact on development of their interpersonal skills (collaboration and communication) while the development of cognitive competencies (critical thinking and enquiry) register lowest, although still high.

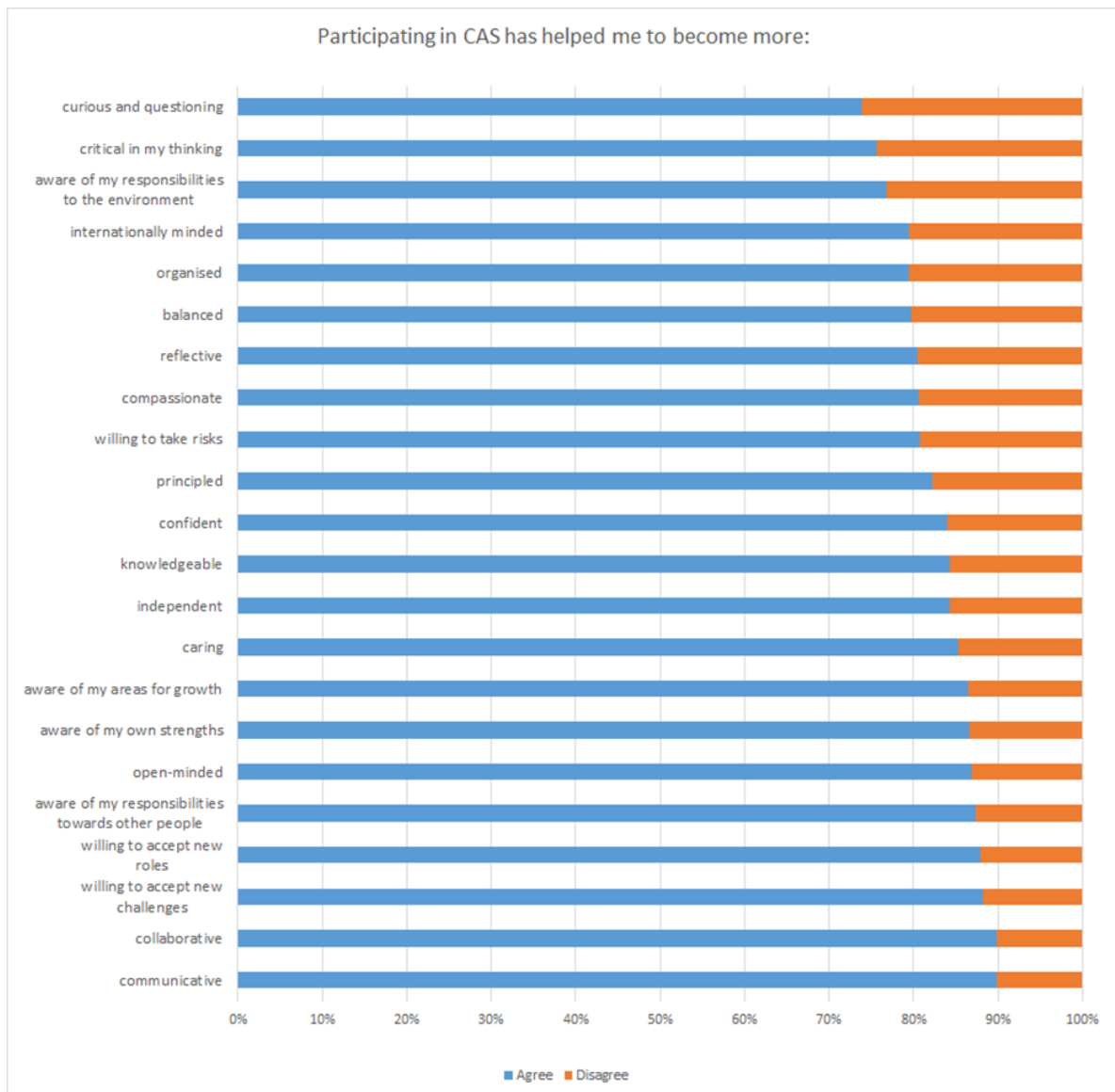


Figure 5.12 “Participating in CAS has helped me to become more...” according to students

Therefore, the development of Learner Profile attributes on which CAS had least impact (the lowest percentage of agreement) is 'inquirer' at 73.9%, while the attribute on which CAS had the greatest impact (the highest percentage agreement) is 'communicator' at 89.8%. Consequently, 15.9% more students report that CAS has helped them to develop as communicators than believe it has helped them to become inquirers.

Because the IB Learner Profile functions as a binding force at the heart of the IBDP subjects and core components, results suggest that CAS has an impact on IBDP connectivity through the development of these attributes. As identified in Section 5.2 (Figure 5.5), around 50% of surveyed students report that the way in which CAS links with their IB Diploma subjects is not a motivational factor in their CAS participation. Perhaps CAS/DP connectivity, therefore, could be understood through the framework of the IB Learner Profile as development of attributes rather than through direct content, skills or competencies specific to individual subjects.

While students perceive benefits during their studies, they also perceived that CAS would continue to have an impact on them post-DP. Figure 5.13 (below) shows that 80.7% of students perceived CAS to be helpful in preparing them for future life, while 73.4% believed that CAS is helpful in preparing them for university.

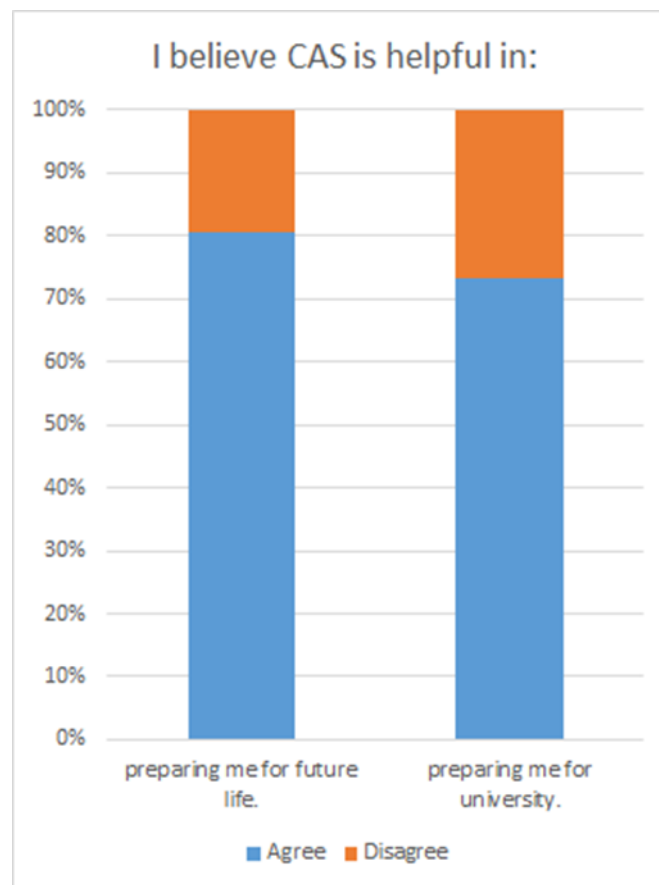


Figure 5.13 "I believe CAS is helpful in..." according to students

Figure 5.13 also shows that there are 20% to 25% of students, therefore, who do not expect the impact of CAS to extend beyond the IBDP. Although this is a minority, it represents an important number of students and has a bearing on the extent of the impact of CAS in communities beyond school. A comparison of the post-DP benefits perceived by current students and alumni are presented in the

following section (see Table 5.7) and some similarities of those perceiving no enduring benefits to CAS are discussed in relation to Table 5.8. The enduring benefits perceived to be attributable to CAS presented in the qualitative data from alumni show a more detailed insight into its enduring impact, and compared to qualitative data of current students. Results show that the *additional* changes current students perceived to have been brought about by CAS (Table 5.4) overlapped with those perceived by alumni to be benefits which *endure* post-DP; these are presented in more detail at the end of Section 5.5.

Changes students perceived as attributable to CAS emerging in qualitative analysis of the student data (Table 5.3) confirmed the quantitative findings but also extended the impact of the programme into new, emergent categories (Table 5.4) and exposed a more complex range of experiences and attitudes to the programme than anticipated at survey construction.

Table 5.3 shows that perceived changes attributable to CAS can be understood in relation to three umbrella concepts: changes in behaviour, attitudes or cognition. It should be emphasised that these three are not seen as mutually exclusive aspects of a human being, but rather generative categories for data comparison. Categories of change in students seen in this way point towards a regional variation, with the underscored themes identified only in the AP region.

Changes in ...	AP Region	AEM Region
Behaviour	Improved leadership skills More participatory More adventurous Better organised <u>More balanced person</u> <u>Fitter/healthier</u>	Improved leadership skills More participatory More adventurous Better organised
Attitudes	More tolerant and caring More mature More open-minded <u>More adventurous</u> <u>Counting blessings</u> <u>More determined</u>	More tolerant and caring More mature More open-minded
Cognition	Broadened perspectives More understanding of people Increased self-knowledge	Broadened perspectives More understanding of people Increased self-knowledge

Table 5.3 Regional Variations in Perceived Changes due to participating in CAS...according to students

Although improved leadership skills are listed as a theme, this theme includes skills which might contribute to leadership such as establishing projects and/or seeing them through to successful completion, being more independent, self-motivated, innovative, collaborative, or better at public speaking. It is, arguably, related to categories such as ‘understanding others better’, which includes improved empathy, due to meeting people from different backgrounds or working with different groups of people in and out of school; and ‘broader perspectives’ which students gain particularly through eye-opening Service experiences, such as CAS trips or charity involvement. Becoming ‘more participatory’ meant, for some students, more inclination to become involved in social groups,

charities, clubs or particular issues, whilst others lost their shyness, and participated in more social activities. The range of new experiences which CAS afforded some students meant they came face to face with some very underprivileged people, prompting some to 'count their blessings': responses conveying a sense of thankfulness arising from a new appreciation for their more privileged situation in life.

In addition to the data in Table 5.3, 'No change' was perceived by some students, and a thematic analysis of these response was performed which showed that more students perceived no change attributable to CAS in IBAEM than in IBAP. Furthermore, the AEM region was much more critical of CAS than the AP region, even though students were being asked for their perceived benefits. Many respondents pointed out that CAS was a continuation of the type of activities they had been engaged in prior to starting the IB programme:

"I haven't really changed that much because I was already doing CAS-type activities before joining the IB programme." (125: AEM).

Some responses kept CAS in perspective as one of several influences upon them:

"As most of my CAS revolves around MUN, which is something I would do voluntarily even if it didn't offer me any CAS hours, I can't exactly say that CAS is the sole reason for my changes in behaviour." (1111: AEM)

There were also those who made a distinction between participating in the CAS programme and the activities which it comprised:

"As said before – I think that it is the activities, not CAS, which have caused these changes, which have been too many and too large to number. I feel like these experiences usually do and should make part of everybody's high school experience, which is about much more than just school." (262: AEM)

Others in this category noted that students were at a point in their development where change was to be expected:

"I have changed over the course, but not because of CAS. At this point in life, if you're not drastically changing something's probably wrong with you. Most of the stuff I did for CAS I was doing before IB even started." (3547: AP)

This may have been implied by those respondents who wanted to keep the influence of CAS in perspective, citing teachers, school lessons or their life stage as partly responsible for the way they had changed:

"I wouldn't think CAS specifically changed my world view. I would say that more of my teachers gave the inspiration for me to think about the world more." (41: AP).

Given that the reflective process was perceived so clearly to be a drawback of CAS for some students (see Section 5.3.1), the following respondent raises an interesting insight into why this process may have success for some students but appears to fail to help others:

"CAS has allowed me to develop but it is the reflection and self-correction that does the most change." (2273: AP).

This student clearly identifies stages to development: the activities are the prompts upon which to reflect and then amend one's actions. The intricacies of this student's perception of the impact of CAS stands in contrast to the respondent who commented how difficult it was to reflect on dance lessons.

When students identified 'other benefits' to CAS, again there were additional emerging categories which have the effect of extending understanding of the impact of CAS from the options reported in the quantitative findings (Figures 5.3, 5.12 and 5.13).

Additional benefits
People involvement
"Stress-buster"
Having fun
Feeling fitter
More balanced

Table 5.4 Additional benefits from participating in CAS...according to students

Table 5.4 shows that students perceived that additional benefits of participating in CAS included meeting new people, making or improving friendships, and establishing new connections beyond their existing social network. This focus on the sociable aspects of CAS may explain students' perceived development of collaboration and communication skills (Figure 5.12) and closely aligns with the finding that almost 80% of students agreed that their enjoyment was a motivator for doing CAS (Figure 5.5), as does 'having fun'. Many students perceived CAS to be a “stress-buster”, a phrase taken from a student in IBAP, which categorises all the comments that described CAS as countering the pressures of academic studies. Feeling fitter and being more balanced are two other themes which can be considered to contribute towards the well-being of students, and should be noted as important in relation to the pressures on well-being felt during the IBDP already noted in relation to the drawbacks of CAS perceived by students (Section 5.3.1 above).

Again, in AEM, there were students who felt that the benefits of CAS were “Non-existent” (408: AEM), while the perception that CAS could be a rewarding experience was not identified in AEM. Bearing in mind the smaller categories, where CAS experience was considered to have no benefits or was purely pragmatic, there are possible questions to be raised about the potential for CAS to be a transformative experience amidst the pressures of the IBDP. As one student commented:

“Do you honestly think that this program, that 90% of students finished within the first three months due to how much stuff we do already, has had enough of an impact that it would tick off ALL of these questionnaire bubbles, as well as MORE benefits? How conceited.” (2342: AP)

Recalling Figure 5.2, where 11.6% of Coordinators agreed that students do not change at all, and Figure 5.3, where approaching one fifth of students disagreed that they had changed due to CAS, it is clear that there are students who are missing out on the positive potential of CAS. The extent to which the word ‘change’ was understood variably by stakeholders is worth considering in terms of cultural influences and dominant pedagogies, raising questions about perceptions of education: is it developmental, and built on many small incremental changes, or is it a more dramatic transformation into a qualitatively different state? Whether the fact that some are untouched by CAS can be attributed to weaknesses in programme delivery, individual circumstances, or the way the word 'change' was interpreted, is not clear from the current analysis. A clearer picture might emerge from analysis of interviews or case-study research. At present, questions are raised about the extent to which the programme can claim to be transformative if it is only transformative for some.

5.5 Identification of post-DP benefits of CAS by alumni

Alumni perceive CAS as a programme having positive outcomes which endured beyond the IBDP, both in general terms (Figure 5.14) and in the development of more specific attributes (Figure 5.15).

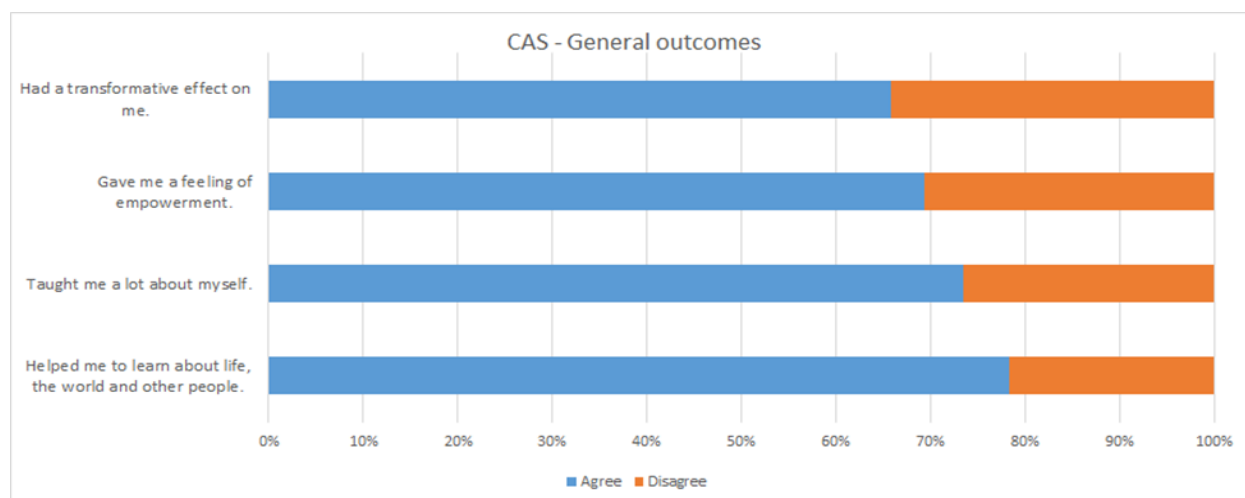


Figure 5.14 CAS General outcomes ... according to alumni

Figure 5.14 shows generally high levels of agreement on the transformative impact that alumni perceive CAS to have had on them. There are levels of agreement between 65.3% ('CAS had a transformative effect on me') and 78.3% ('CAS helped me to learn about life, the world and other people'). It can be concluded that, for the majority of alumni, CAS is a successful holistic programme of transformational education (IB, 2015).

Section 5.2 showed that, while there was an overlap in the perceptions of students (Figure 5.3) and alumni (Figure 5.4) on the impact CAS had in changing *some* attributes, there was a distinct difference with respect to others. Comparing the *development* of attributes perceived by students and alumni to be attributable to CAS showed even stronger similarities. It should be reiterated that, as with previous comparisons, the strength of agreement is weaker across the alumni responses (Figure 5.15) than those of current students (Figure 5.12 above): becoming more critical in their thinking, for example, having a level of agreement of 66.2% for alumni (Figure 5.14) compared to a 75.6% rate for current students (Figure 5.12). With 83.7% agreement amongst alumni that CAS most benefits the 'communicative' category, commonality is apparent with current students (Figure 5.12), albeit at a rate of agreement 6% lower.

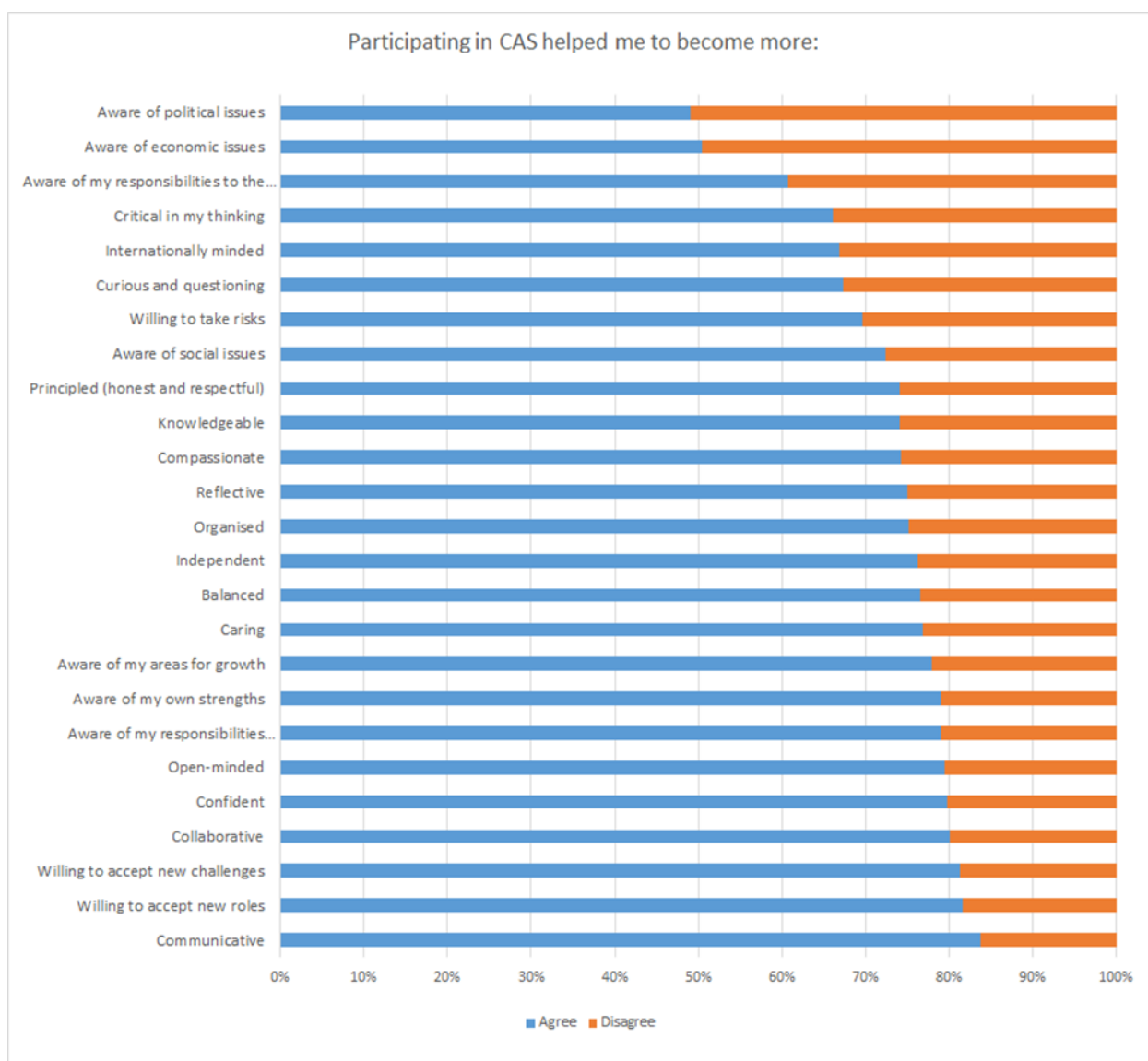


Figure 5.15 "Participating in CAS helped me become more ..." according to alumni

Comparison reveals that both alumni and current IBDP students identify the same four attributes as having been developed by CAS: they have become more 'communicative', 'willing to accept new roles', 'willing to accept new challenges' and 'collaborative'. Comparison of the categories which both stakeholder groups were asked about shows they share the lowest levels of agreement with regard to the perceived impact of 'aware of responsibilities to the environment', 'critical in my thinking', 'internationally-minded' and 'curious and questioning' which comprise the lowest four attributes. From weaker levels of agreement it is concluded that practices related to nurturing these attributes have a less effective impact on students, past and present, than do those with stronger levels of agreement. It should be noted that two of the least effectively delivered attributes – 'aware of responsibilities to the environment' and 'internationally-minded' – are directly related to the global concerns of the IBO.

Both alumni and current IBDP students identify the same four attributes as having been developed by CAS: they have become more 'communicative', 'willing to accept new roles', 'willing to accept new challenges' and 'collaborative'. After removing two of the categories which the alumni, but not the current students, were asked about, the two groups also share the lowest levels of agreement with

regard to the perceived impact of 'aware of responsibilities to the environment', 'critical in my thinking', 'internationally-minded' and 'curious and questioning' which comprise the lowest four attributes. From weaker levels of agreement it is concluded that practices related to nurturing these attributes have a less effective impact on students, past and present, than do those with stronger levels of agreement. It should be noted that two of the least effectively delivered attributes – 'aware of responsibilities to the environment' and 'internationally-minded' – are related to the internationally-directed aims of the IBO.

Overall, Figure 5.15 shows that the only category that the alumni rated at a level of agreement lower than 50% was that CAS helped them become more 'aware of political issues'. It is concluded that CAS influenced alumni awareness of social and economic issues more than it did issues of a political nature.

Table 5.5 sets out a number of such features showing that alumni perceive that participation in CAS had little net positive effect on their choice of university, on course of study at university or on future career path taken. This is somewhat in contrast with the expectation of the student group, of whom 73.4% agreed that the CAS programme would prepare them for university and 80.7% eventually their future life (Figure 5.13 above).

CAS experience had an influence on:	Alumni weighted mean	Student expectation weighted mean		
		Overall	AP	AEM
<i>Choice of University/College</i>	-1.32	+0.77	+0.97	+0.69
<i>Choice of University/College course</i>	-1.38			
<i>Choice of career</i>	-0.73	+0.53	+0.61	+0.47

Table 5.5 Perceived influence of CAS on post-DP experience

With regard to possible future participation in CAS-type activities after leaving the DP, approximately three quarters of the current students expressed an intention to do so (AP 81%, AEM 76%). Alumni also offered their views about the extent to which they had continued to be involved in activities arising from their CAS experiences since completing the DP. They reported separately for Creativity, Action and Service, as displayed in Table 5.6.

CAS Strand	To a LARGE extent: %	To SOME extent: %	To a SLIGHT extent: %	NOT AT ALL %
<i>Creativity</i>	22.2	31.4	22.6	23.8
<i>Action</i>	28.5	31.9	19.9	19.8
<i>Service</i>	27.0	27.3	22.7	23

Table 5.6 Continued activity in CAS strand-related activities by alumni, post-DP

Table 5.6 indicates a generally positive set of responses balanced across the three CAS strands, although it seems that between a fifth and almost a quarter of alumni appear to have ceased involvement in activities associated with the strands. This is comparable with the 20% to 25% of students who did not expect that CAS would prepare them for either university or future life (Figure 5.13). These results suggest that there may be some students who are not amenable to CAS, and that they form a substantial minority of students past and present.

Enduring benefits of the CAS programme were identified in more detail in the qualitative responses in the online survey of alumni (Table 5.7), with only 10.3% of those alumni responding to this question perceiving there to have been few or no such benefits.

Themes	Categories
Personal development	<ul style="list-style-type: none"> • Transferrable skills • Realisation about self or potential • More open minded • Pragmatic reasons • Resilience
Well-being	<ul style="list-style-type: none"> • Balanced lifestyle • Became more active • Formed good habits • Allowed hobbies to continue • Formed friendships
New Experiences	<ul style="list-style-type: none"> • Had to try new things • Gained knowledge of the world
Responsibility in community	<ul style="list-style-type: none"> • Sense of social responsibility • Introduced to volunteering
Few or None	<ul style="list-style-type: none"> • No benefits • Benefits not <i>just</i> from CAS • no enduring benefits

Table 5.7 Alumni identify enduring benefits of CAS

While recognising that the alumni sample drew from those who were at different stages of life and varying in the number of years since graduating from the IBDP, it is clear from Table 5.7 that there are a range of enduring impacts which they perceived to have come from having participated in CAS. The top three themes could be considered to be benefits to the self, with only 'responsibility in the community' being clearly others-directed. This raises questions about the extent of the impact of the programme on the wider communities into which the alumni travel post-IBDP. Considering the IB's aim to encourage people to become active global citizens, the impact of CAS in achieving this is perceived by its alumni to be limited.

When comparing the benefits and outcomes of CAS identified by current students, there were some emergent themes (Table 5.8) which went over and above these five identified by alumni (Table 5.7).

Alumni	'Changed me in other ways': students	'Other benefits of CAS': students
Personal Development	<ul style="list-style-type: none"> • Increased leadership skills • More mature 	
Well-being	<ul style="list-style-type: none"> • Fitter/healthier 	<ul style="list-style-type: none"> • Being involved with people • Stress-buster • Having fun • Feeling fitter

Table 5.8 Emergent themes: changes and benefits (according to current students)

Current students identified better leadership skills, which may be comparable to the development of transferrable skills stated by the alumni and reflect a change in language use regarding skills development. Current students also wrote about becoming more mature, although the extent to which this is attributable to CAS is not verifiable. What is noticeable is how clearly the emergent benefits relate to students' well-being. This aspect of student welfare is of particular note as its mention is not explicit in the IBDP model; the closest is the idea of 'balance' in the Learner Profile. However, results show that current IBDP students are identifying improved well-being as an additional, holistic benefit deriving from CAS participation. In addition, alumni strongly identified benefits to their well-being enduring beyond the IBDP. The impact of CAS can thus be considered as contributing to the holistic aims of the IBDP, in that the whole person is educated beyond those elements itemised in the programme.

5.6 Summary of motivators, challenges and benefits of CAS to students and alumni

Findings show strong agreement amongst stakeholders that participation in CAS brings both positive changes and development of existing attributes in IBDP. Throughout, levels of agreement are stronger from CAS Coordinators than from students, and weakest from alumni. This may reflect the stake Coordinators have in the success of the CAS programme and perhaps the fact that alumni are more distant from its impact. All three stakeholder groups perceived CAS to help students become better at taking on new challenges, learning to persevere and developing interpersonal skills. Its impact was perceived as weakest in leading them to make better judgements or changing their world view. The extent to which CAS has an impact beyond the individual students, on the achievement of the IB aim of creating a better more peaceful world, is uncertain in light of these results.

The impact of CAS depends on participants being motivated to participate. Students' motivation stems from the mandatory nature of CAS as well as their own enjoyment in the activities. Involvement with a range of people, with affective and formal relationships with students, is required to support motivation, contributing to the view that CAS completion is likely to be better if students are supported within a network or a community.

Despite CAS being perceived as a challenging programme, there is general agreement amongst students that these challenges are worthwhile. Students identify the time-consuming nature of CAS as a drawback, along with its mandatory nature and the bureaucracy associated with the reflections. Although many students believe that CAS prepares them for the future in some way, between one fifth and one quarter of students do not link CAS to life beyond the IBDP. As with current students, so alumni have low levels of agreement that CAS changed their behaviour or world-view and a similar proportion of alumni reported that CAS had no enduring benefits post-IBDP as students expecting no future benefits to CAS participation. Alumni, like students, disliked the reflections and the time-consuming nature of CAS; more, however, identify the nature of the CAS programme, or its implementation in school, as a drawback. Moreover, 'fakery', as a response to the requirements of the programme being so demanding, is identified by alumni as the second-largest drawback.

Students show high levels of agreement that the development of existing attributes can be attributed to participation in CAS: the highest for becoming more communicative and collaborative, with the lowest being that CAS helped them become more curious and questioning, and critical in their thinking. The implications are that CAS develops some aspects of the Learner Profile (communicator) more than others (inquirer) and may, if development of Learner Profile attributes is a recognised outcome of participation in CAS, have a more positive impact upon students' motivation than linking CAS to academic subjects is found to have. In addition to the change and development of attributes, students perceive CAS to be beneficial to their well-being. The pressures of the IBDP identified by some students mean that CAS has the potential to make a positive impact on students' mental and physical health.

With levels of agreement above 60% for most statements, it can be concluded that alumni perceive participation in the CAS programme has resulted in changes aligned with those expected by the IB Learner Profile (International Baccalaureate Organization, 2015, p15). The impact of CAS in improving interpersonal skills attracts the strongest level of agreement amongst alumni, and has the third highest level amongst students. Increased awareness of being a member of different communities, taking on new challenges and becoming more mature are rated strongly as attributable to CAS participation.

Some of the benefits perceived by existing students are also identified by alumni as enduring beyond the IBDP. There was overlap in the impact CAS had on attribute development, with both groups perceiving CAS to have helped them become more communicative, collaborative, willing to accept new roles, and willing to accept new challenges. They shared low levels of agreement on the impact of CAS to make them more aware of their responsibilities to the environment, being internationally-minded, critical in their thinking, and curious and questioning. The first two of these attributes are noted to be related to the IB intentions for its educational model to be global in its scope.

For students and alumni who were not motivated to take part in CAS, did not like CAS and felt they did not change because of CAS, questions arise about the extent of the impact of CAS in achieving the aims of the IB; if students emerge from the IBDP with unchanged world views or appear to remain unaffected by the CAS programme, to what extent can CAS be considered to have a transformative impact? Additionally, these results show that the impact CAS is perceived to have on individual students is not translated to those aspects of the Learner Profile which can be considered to be more international in scope. With changes to CAS applicable for students graduating with the IBDP from 2017 onward, it is important that CAS practices are reviewed to avoid replication of existing practices which are perceived to link to drawbacks. The impact of CAS perceived by schools is presented in the following section, through the data collected from CAS Coordinators.

6. Findings: Coordinator perceptions of benefits and outcomes of CAS

This section draws on data indicating perceived benefits and outcomes of CAS participation according to CAS Coordinators. It also refers to results presented earlier in the report and focuses on:

- Coordinators' perceptions of outcomes for students participating in CAS
- Coordinators' understanding of how to achieve these outcomes and the potential benefits they bring to students

Findings in Section 5 (Figures 5.1 and 5.2), taken in conjunction with those in this section, indicate that the transformative potential of CAS is widely recognised amongst school staff who have a stake in the delivery of this component of the IBDP. This section shows that, in addition to the high levels of agreement demonstrated by quantitative data, qualitative data illustrate how specific benefits and outcomes identified by Coordinators vary greatly reflecting the extensive range of individual students, staff and schools and the CAS activities being undertaken therein. Coordinators' perceptions of the skills developed by students participating in CAS, followed by other outcomes, are presented in the remainder of this section.

Earlier in the report it was shown that the overwhelming majority of Coordinators (90% and above) were in strong agreement that participation in CAS brings about positive changes in students (Figure 5.2). Few Coordinators (11.6%) agreed with the statement 'students don't change at all'. Figure 6.1 (below) disaggregates Coordinators' responses but shows that Coordinators' levels of agreement are still high when considering the impact of CAS on developing students' already-existing attributes. Definite agreement ranging from 45% (for 'critical in their thinking') to 75% (for 'collaborative') shows a substantial cohesion of opinion about the positive benefits students can experience from CAS.

The overall agreement rates – collapsing 'definitely agree' with 'slightly agree' and 'slightly disagree' with 'definitely agree' – range from 92.6% (students became 'more critical in their thinking') to 99% (students became more 'willing to accept new challenges'). The lower ranking of development of critical thinking through participation in CAS echoes the perceptions of current students and alumni presented in the preceding section. The homogeneity of results in this section is remarkable and leads to the conclusion that the vast majority of CAS Coordinators perceive CAS to have clearly identifiable benefits to their students. However, despite these high levels of agreement, it should be noted that Coordinators also recognise that CAS is challenging for students; as previously reported, this is in particular regard to students developing the ability to consider the ethical implications of their actions and engaging with issues of global importance (Figure 5.11). The latter corroborates the perceptions from students and alumni that the areas where the impact of CAS results in least agreement is the development of more international-facing elements, which the IB sees as desirable and consistent with its aims.

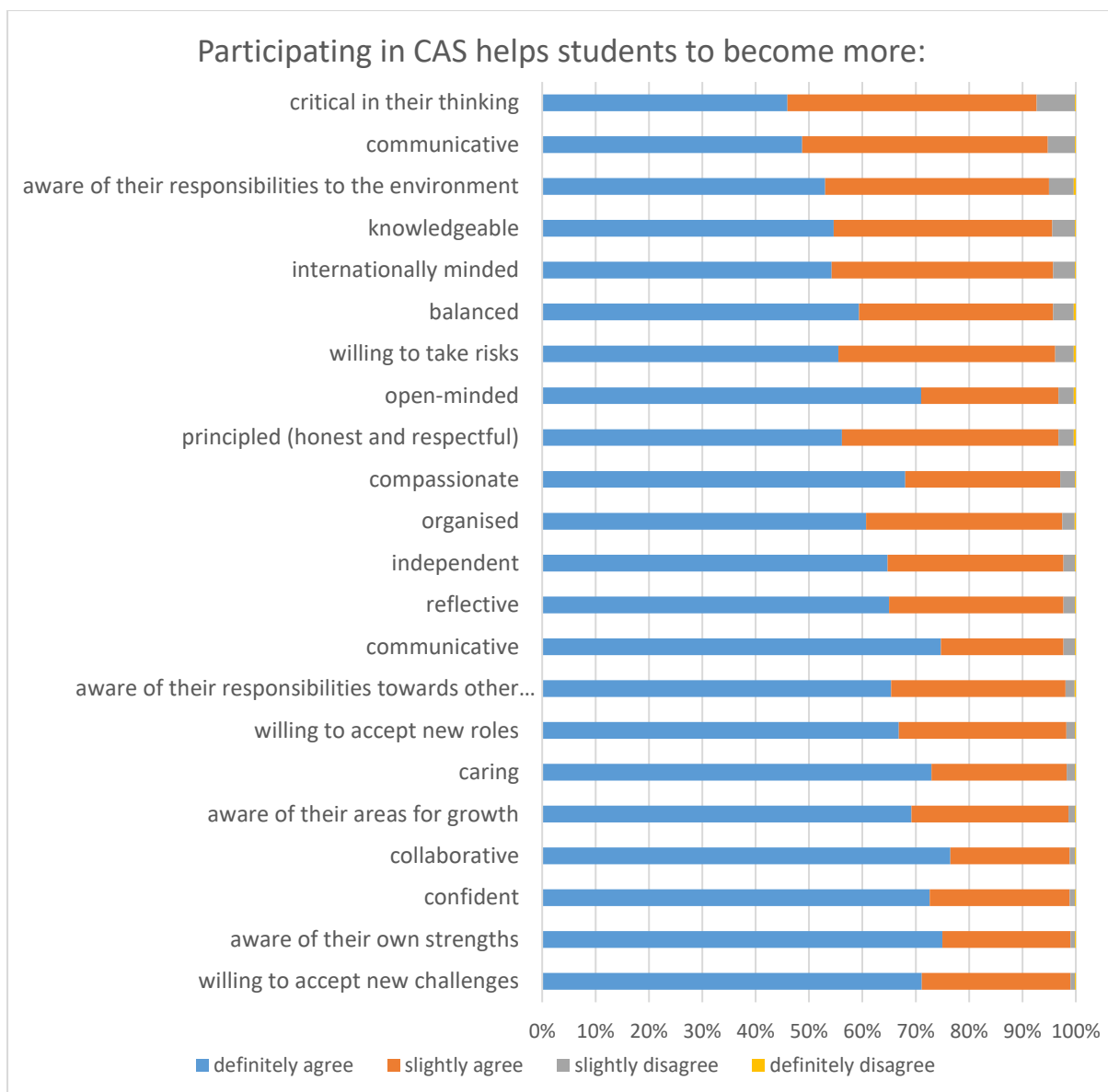


Figure 6.1 "Participating in CAS helps students to become more..." according to CAS Coordinators

In light of the high level of agreement apparent from the quantitative data, qualitative analysis was conducted to establish whether there were any distinctive outcomes or benefits perceived by Coordinators. Results showed that Coordinators perceive outcomes beyond the scope anticipated in the survey design. As the design arose from IB literature, this further suggests that gains to students perceived by Coordinators go beyond those anticipated through participation in CAS activities.

Students participating in CAS have the potential to develop a wide range of skills (Figures 6.2 and 6.3) and may even find CAS to open new doors and be a life-changing experience. Skill development and/or acquisition as an outcome of participating in CAS is often related to exposure to new experiences:

"They take often new tasks – so they can develop various skills: organizational, stress management, responsibility, empathy, but also (new) skills such as playing the guitar, or improving skills such as the selection of the composition in the picture (photography)." (308)

Students' skills cover quite a range, from affective changes such as empathy, to indicators of increased maturity such as responsibility, to operationalising activities suggested by organisational skills. Some Coordinators referred to "hard and soft skills" (514); the former tending to refer to content-focused and activity-related skills and the latter pertaining more to self-development with the benefit of being transferrable between activities. These categories appear to be general but are useful for representing distinctions between outcomes as perceived by CAS Coordinators.

The word clouds below convey some sense of this distinction and use word size to represent the frequency with which hard skills (Figure 6.2) and soft skills (Figure 6.3) are identified by Coordinators: the larger the word, the more often Coordinators mentioned it.



Figure 6.2 'Hard Skills' identified by CAS Coordinators as 'other' benefits to students arising from CAS participation

Figure 6.2 shows that 'Sport' features largely as a hard skill and mainly appeared with reference to students' improvement at a particular sport. In the same way, 'instrument' usually referred to becoming a better player or performer. Teamwork and languages feature prominently, but so too do teaching, cooking and craft. Teamwork is an activity which may require the possession of several of the softer skills that Coordinators perceived to be developed during CAS (Figure 6.3).

“I always insist that each candidate brings activities into their portfolio that pushes them outside their comfort zone. This is where new skills develop. For example, if they are already an accomplished sportsperson, they should then try coaching juniors in that sport.” (504)

This approach targets an aspect of operationalising CAS which links to motivation (Figure 5.5): matching students to activities which they find important or see as meaningful to them. Section 8 below shows the close relation between enjoyment and motivation as factors with significant associations with the outcomes of CAS. Coordinators reported that students experience enjoyment when participating in their favourite strand (93), working with others (9), or making new friends (404). When a student is encouraged to extend existing skills, the relevance to them will motivate them to maintain their involvement and increase the likelihood of benefiting from CAS:

“when they do not what they are made to, but what they feel is important, they change.”
(427)

Similarly to students' identification of the enjoyment they experienced from CAS activities, this was likely to lead to more commitment to CAS from students. The feeling that greater “diligence” (55) leads to better outcomes for students is balanced with acknowledging that levels of enthusiasm range from those students who put their “heart and soul” (295) into CAS to those who exert the “minimum of effort” (94). Some Coordinators' responses took into account the range of students as a factor in varied approaches to CAS, noting that not all outcomes were similar:

“many students do, and learn all of these things, and then some don't – and they barely scrape through with a CAS pass. It entirely depends on the student ... some students do stay in their comfort zone too.” (428)

Knowing what is likely to bring benefits for students implies a degree of personalisation and a school ethos which supports a participatory pedagogy (Wasner, 2016). There is evident variation in the extent to which students negotiate with Coordinators, with some Coordinators choosing to influence students' choice of activities in pursuit of meaningful outcomes, for example in the form of expecting students to clearly set targets and seek experiences from which they will grow (333); or of providing plenty of opportunities to fulfil the learning outcome of new skill development, as in the case of the Coordinator who says that over 100 of their students participate in clubs which facilitate their skill building (200). Coordinators' data paint a picture of a complex, holistic process, weaving together CAS activities and students' preferences.

Many Coordinators perceived a holistic development of ‘leadership skills’ in students participating in CAS activities, involving a mixture of the skills shown in the two word clouds (Figures 6.2 and 6.3). One Coordinator clarified this by itemising some relevant skills developed by the students at her school:

“Leadership skills: how to organize meetings and delegate work for everyone to do, how to become effective at communicating with others, how to become better organized, how to make student-wide presentations, presentation skills, work better with adults in the community” (169)

The opportunity to lead may have been entirely new to some students but not to others, a point underscored by another Coordinator's response:

“It depends on the activity: many students will undertake activities that involve skills that they have never done before, therefore will develop any number of new skills.” (507).

There is clearly a tension between engaging students in new activities and supporting them to extend existing activities. Although the relative impact of these approaches has not been researched in this study, results suggest that matching students with activities the student considers meaningful will increase the likelihood of making an impact on individual students. Furthermore, in distinguishing between skill acquisition and skill development, dominant pedagogical assumptions which permeate practice will affect whether Coordinators and students work in collaboration. Understanding how to achieve a beneficial outcome from CAS relates to the way CAS is understood within individual institutions. For instance, it may be easier for a student to be an enthusiast for CAS when attending a school where CAS has a high profile and is valued school-wide.

As noted above, the potential of CAS to prepare students for life beyond school is stated by some Coordinators as a benefit of the programme, in particular for developing skills through non-academic activities (86) or developing those life skills “that we never teach at school, for example, how to communicate with offices” (126). But some go beyond the benefits of CAS as developing skills when they report that CAS can be “life-changing” for students. Examples of this from Coordinators include CAS increasing students' awareness of the world (290), giving students the chance to realise their passions (309), allowing them to experience a different part of life (273) and, in many ways, seeing CAS as an experience that “prepares them greatly for their futures” (176). CAS is seen by one as “the heart of the DP experience” (502), and when it is described as an “enriching and joyful experience” (213) for students, a sentiment expressed by many Coordinators, this shows their recognition of the importance of fun and enjoyment in encouraging students' commitment to CAS activities.

The responses by CAS Coordinators about the benefits and outcomes of CAS reveal, in the main, their committed enthusiasm to render CAS a positive experience for the whole range of students, confident that “even the most recalcitrant CAS participants will develop new skills ... we make sure of that.” (95).

Such a comment tends to suggest that students are likely to benefit more from CAS in schools where Coordinators are committed to students' development and clearly understand the value of CAS participation.

7. Student satisfaction and value

The extent to which CAS can be understood by students, past and present, as being satisfying or valuable in some way is addressed in this section of the report. Research question 4 (To what extent are Diploma students satisfied with their CAS experience?) had three sub-questions as follows:

- a) to what degree do DP students (and alumni) value CAS?
- b) does satisfaction with CAS vary according to the project/activities undertaken by students?
- c) is there variance in the value students place on CAS in different school and country contexts?

These sub-questions are addressed by both quantitative and qualitative analysis based on the data sets of all three stakeholder groups, drawn on online surveys and interviews.

7.1 To what degree do DP students and alumni value CAS?

The question of degree of value is problematic as value is a non-quantifiable concept. An oblique approach was used to answer this question through seeking to understand perceptions of CAS as a valuable use of time (Figure 7.1 and 7.2) and, for alumni, whether they considered CAS enjoyable (Figure 7.3) and worthwhile (Figure 7.4). The assumptions underpinning this approach are that, when the obverse is considered for each of these data sets, value would be perceived as low: a waste of time, not enjoyable, and not worthwhile.

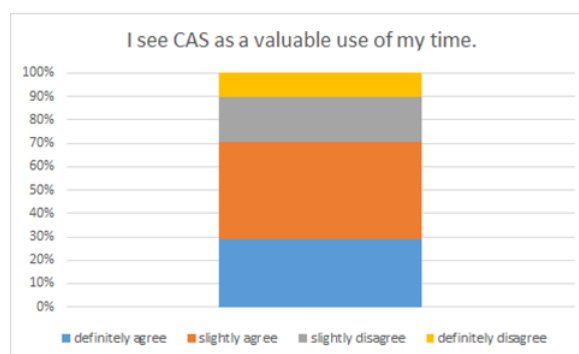


Figure 7.1 'CAS as valuable use of time'... according to students

Figure 7.1 shows that over 70% of students agree that CAS is a valuable use of their time, although 10.1% definitely disagreed with the statement; compared to Coordinators' perceptions (Figure 7.2), the levels of agreement of students are less positive, again reflecting the consistent patterns of levels of agreement noted in Section 5.1.

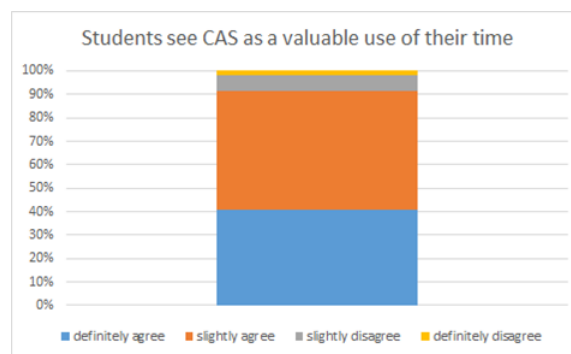


Figure 7.2 CAS as valuable use of time' ... according to Coordinators

Although quantitative analysis shows that the majority of students see CAS as a valuable use of their time, the qualitative analysis reveals a perceived drawback of CAS as being a time-consuming element of the IBDP which clashed with academic studies (Section 5.3.1). The IBDP is a high-stakes qualification offering a gateway to university entrance, with a maximum point score of 45 to which successful completion of CAS does not contribute. It could be the case, therefore, that students, while they are in the process of completing their IBDP studies, place a lower priority on CAS than on their academic subjects and other components of the DP that contribute to the overall qualification. Below, the idea of the value students place on CAS is considered by strand through the lens of enjoyment and being worthwhile (Figures 7.5 and 7.6). Firstly, the perceptions of the value alumni place on CAS are presented.

Figures 7.3 and 7.4 show the general levels of agreement for CAS overall as “enjoyable” and “worthwhile” for the alumni.

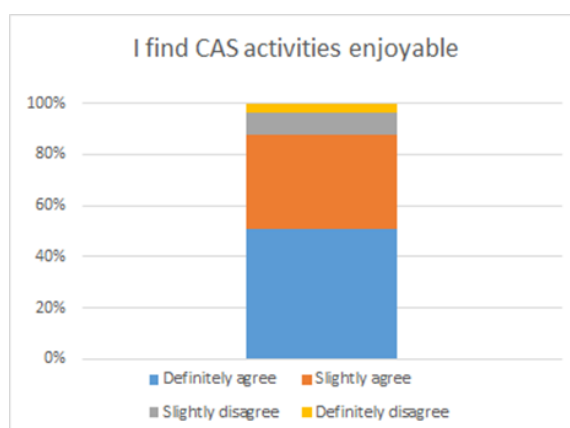


Figure 7.3 'CAS activities are enjoyable'... according to alumni

The majority of alumni definitely or slightly agree that CAS was enjoyable at 87.9% (Figure 7.3) and worthwhile at 79.4% (Figure 7.4). In both categories the “definitely agree” response registered the largest percentage of replies (around 50%), suggesting that CAS is positively received and remembered by students after they complete the Diploma.

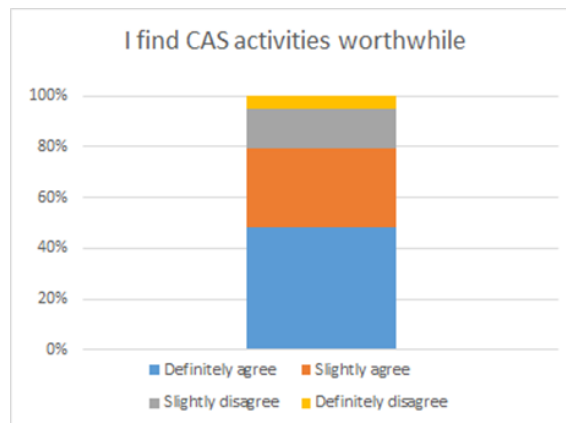


Figure 7.4 'CAS activities are worthwhile'... according to alumni

It is worth noting that 20% of the surveyed alumni (representing approximately 180 respondents) were of the view that CAS activities were not worthwhile (Figure 7.4), a proportion similar to those who perceived CAS to have had no enduring benefits (Figure 5.13 and Table 5.8). This is further evidence that a substantial minority of students find no benefits from CAS activities.

The abstract concept of the extent to which students value CAS has to be understood in conjunction with findings about the benefits of CAS identified by students (presented in Section 5.4) and alumni (in Section 5.5). Those results support the view that CAS activities can be considered valuable when they are related to the impact of the programme: the changes and development of attributes in students, the way it prepares them for life post-IBDP, the skills they acquire and develop (Figures 6.2 and 6.3) and the potential for transformative experiences. Quantitative data from alumni suggest that although agreement levels were weaker than those amongst students, alumni identify influences on careers and on activities which began in CAS and continued post-IBDP (Tables 5.5 and 5.6). In addition, qualitative data (Section 8.3.2 below) suggest that alumni value staff who are committed to CAS, corroborating the Coordinators' perceptions reported in Chapter 6.

7.2 Does satisfaction with CAS vary according to the project/activities undertaken by the students?

As with value, an oblique approach was taken to understand variation in levels of satisfaction amongst students by breaking down their perceptions of the enjoyable and worthwhile nature of CAS by strand.

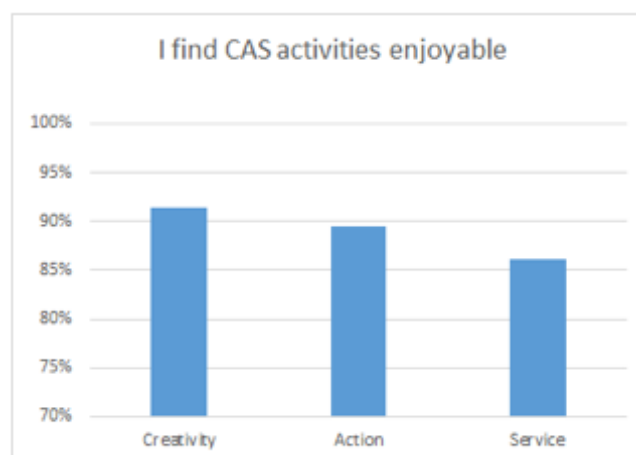


Figure 7.5 'I find CAS activities enjoyable' according to students

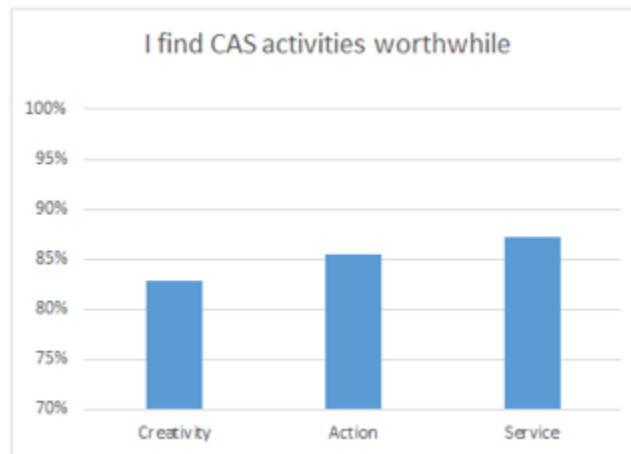


Figure 7.6 'I find CAS activities worthwhile' according to students

It can be inferred from Figures 7.5 and 7.6 that levels of satisfaction, understood through perceptions of CAS as both enjoyable and worthwhile, are high for students across all three CAS strands; reported enjoyment levels are above 85%, while agreement that CAS is worthwhile is above 80%. There is an inverse correlation between the enjoyment gained from a strand and its being considered worthwhile: of the three strands, students perceive Creativity as being most enjoyable but the least worthwhile, while Service is reported to be the least enjoyable but the most worthwhile. The quantitative data raises the question: CAS is perceived as worthwhile to whom? The extent to which CAS is perceived by students to be worthwhile beyond its impact on their personal acquisition of experiences and skills is not identifiable by this data set and leaves unanswered the question of worth which CAS is perceived to bring to the wider community.

Combined with evidence from the qualitative data about CAS Projects in Section 4.4, the experience of Service activities on students can be considerable, taking them out of school to work as volunteers. Many students who identified Service as the most time-consuming strand (Section 5.3.1) did so because they recognised the worthwhile nature of connecting with people from under-privileged communities, or raising money for social welfare causes. This unquantifiable element of the value students perceive CAS to have is important to acknowledge.

7.3 Is there variance in the value students place on CAS in different school and country contexts?

The same data presented above in Figures 7.1 and 7.2 were analysed for difference by type of school: by legal status (state and private) and gender status (co-educational, all-girl, all-boy). There was a negligible difference in these results (2% difference by legal status) although students' perceptions at the all-girl schools showed slightly higher levels of agreement (6%) than those at co-educational and all-boys schools, both sharing agreement levels of 71%.

However, when the data are presented by region for Coordinators' perception of CAS as a valuable use of time (Figure 7.7) and students' perception of the same (Figure 7.8 below), a notable difference becomes apparent.

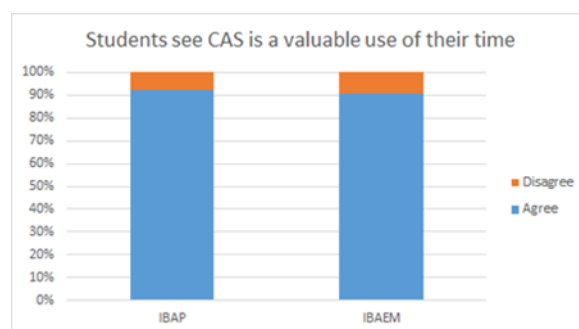


Figure 7.7 'CAS as valuable use of my time' by IB region...according to Coordinators

Figure 7.7 shows that, across regions, there is little variation in the level of value CAS Coordinators perceive students to place on CAS (AP 92.3%; AEM 90.9%). However, the percentage of students who consider that CAS is a valuable use of their time (Figure 7.8) is markedly lower in the AEM region than the AP region, at 64.9% and 77.7% respectively: a 12.8% difference. This relates to qualitative findings in Section 5.4 which showed that, even when being asked to identify benefits of CAS, students in AEM were more critical of CAS than in the AP region. These findings are further corroborated by the country-by-country analysis below (Figure 7.9 and 7.10).

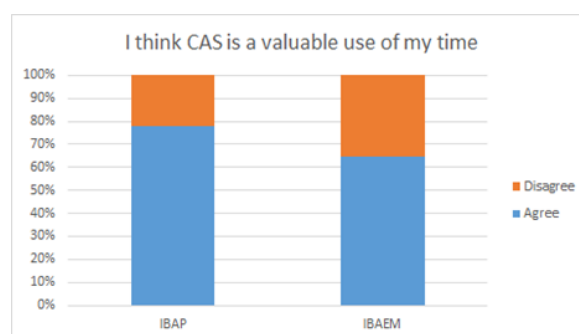


Figure 7.8 'CAS as valuable use of my time' by IB region...according to Students

When considering variables which may illuminate understanding about the way CAS is perceived as valued in different contexts, the country in which the school is sited is considered a potential factor. The following figures arrange the responses from students by country and are split into the two regions: AP (Figure 7.9) and AEM (Figure 7.10).

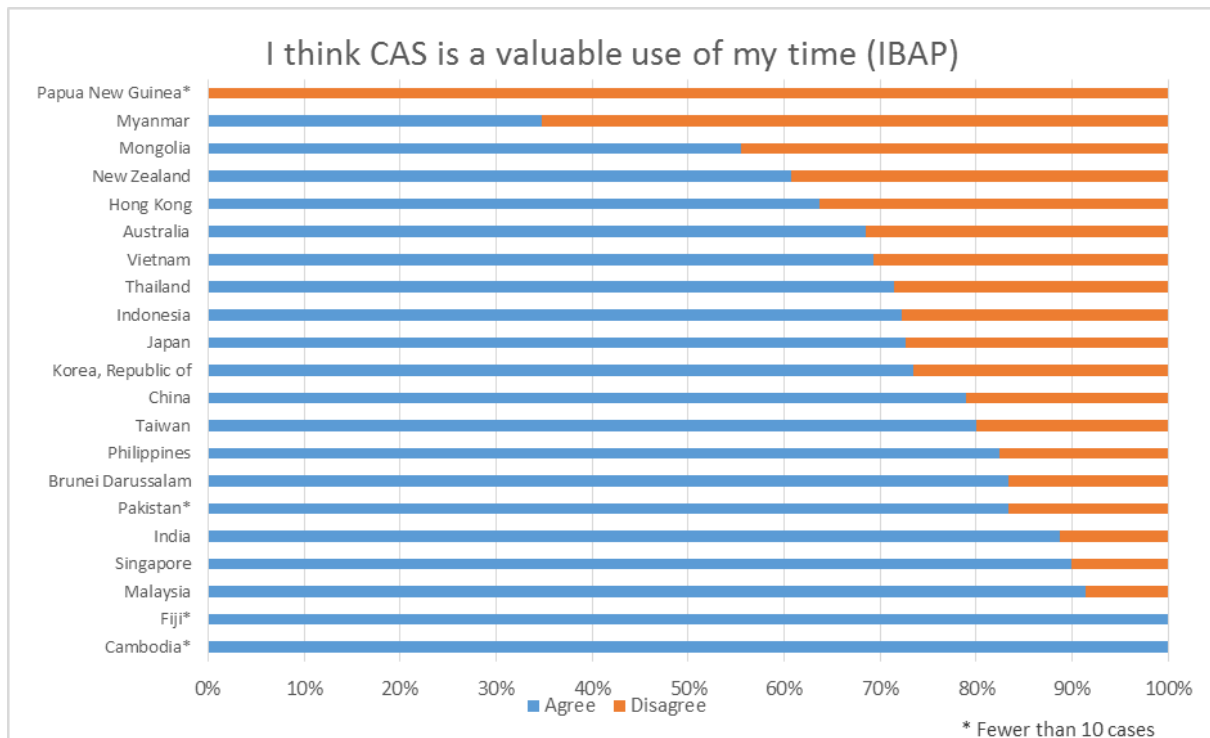


Figure 7.9 Value of CAS: Students – AP

As can be seen from Figures 7.9 and 7.10, the level of value students place on CAS as a use of their time across countries varies from 0% to 100% agreement. On average across all countries 70.8% of students agree that CAS is a valuable use of their time, at both slight and definite levels. In three countries students reported a 100% disagreement (two in AEM and one in AP) that CAS was a valuable use of their time, while five countries reported 100% agreement (three in AEM and two in AP). However, in both instances there were fewer than 10 survey responses and therefore the results cannot be considered representative of views from schools in that country. The exception to this is Bosnia and Herzegovina where the 100% agreement corresponds to the responses of more than 20 students, though even with this larger number the results can only be interpreted within the context of those schools whose students completed the survey.

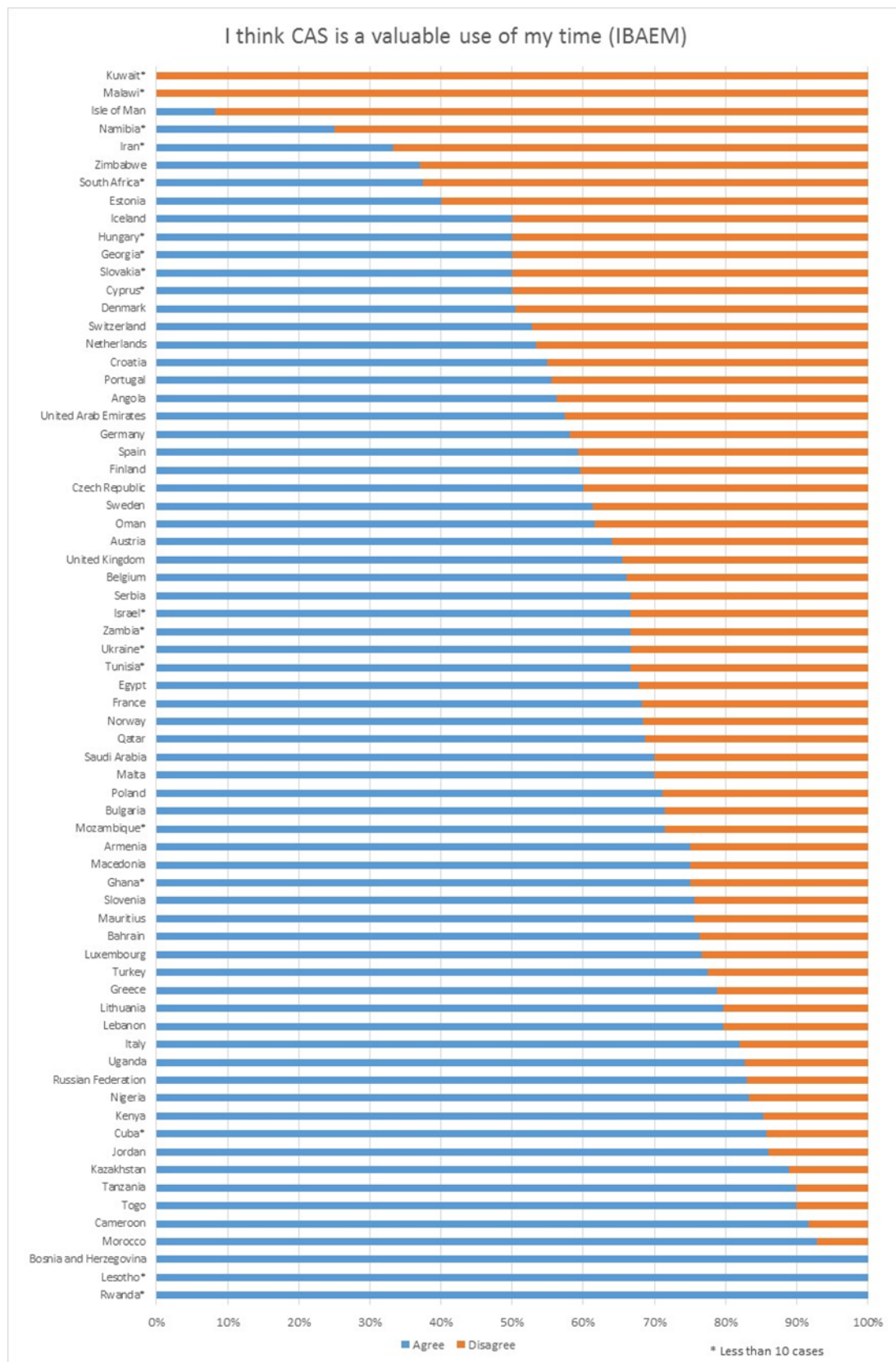


Figure 7.10 Value of CAS: Students - AEM

Only in 10 countries do the students report agreement of less than 50% that CAS is a valuable use of their time, showing that the majority of students in most countries do see the value of CAS. It is worth noting, however, that these 10 countries are in the AEM region (see Figure 7.10). This reflects the results of qualitative analysis which found that AEM students appeared to be more negative in their evaluation of CAS than did students in AP. Explanations for this phenomenon may be complex and require further research.

It is interesting to note that there are not huge differences in response between geographical regions (65% agreement in AEM vs 72% in AP) and countries from both regions are represented at both extremes of the distribution. However, Table 5.3 shows that students from AP identified some CAS outcomes which AEM students did not, adding further weight to the suggestion that there are regional variations in the values students perceive to be associated with CAS.

7.4 Summary of findings on student satisfaction and value

Analysis included in this section has shown that Coordinators see CAS as a more valuable use of students' time than do students. This may be due to the perception of the value of CAS in relation to academic work in the high-stakes Diploma Programme. It is most useful to consider the value of CAS holistically, and include findings from previous sections. For example, while Section 5.3.1 showed how CAS was perceived by some students to be a distraction from their studies and an infringement on their valuable time, it was also identified in Section 5.4 as providing students with a break from their studies which they may not otherwise have taken. The complex nature of the concept of value, therefore, has to factor in the benefits identified by students and alumni as well as the quantitative findings presented in this section.

It was found that the value students place on CAS may change over time, with more alumni than current students disagreeing with the statement that CAS was worthwhile. However, Service was a particularly valued strand amongst current students, perceived as the most worthwhile of the three strands (Figure 7.6). An inverse relationship between Service being enjoyable yet worthwhile was evident (Figure 7.5 and 7.6). One explanation could be that Service is new to many students, thus taking them out of their comfort zone, an aspect which Coordinators identified as important for developing new attributes in students (Section 6). An inherent worth associated with Service activities was perceived by some to generate a sense of satisfaction when, for example, students' efforts helped less fortunate others, in a way that was meaningful to them (Section 4.4) and which also motivated students to participate in CAS (Figure 5.6).

Differences across school types was negligible. Regionally, Coordinators vary little in the value they perceive CAS to have, but both quantitative and qualitative data show that AEM students value CAS less than do their AP counterparts. The ten countries where agreement is weakest (less than 50%) in regarding CAS as a valuable use of time are all from the AEM region (Figure 7.10). The extent to which this affects the potential impact of CAS is linked closely to its effect on the motivation of students to be committed to CAS participation, which Coordinators identified as an important factor in achieving the potential outcomes and benefits CAS activities can have on students.

8. Good practices for implementing CAS

The findings in relation to the fifth and final research question, 'What are the best practices for implementing an effective CAS Programme?', are reported by addressing each of the following sub-questions:

- a) what do schools identify as the key elements that underpin a successful CAS programme?
- b) what do DP students (and alumni) identify as being the main elements that contribute to a rich and rewarding CAS experience?

To answer the first question, qualitative analysis of data from CAS Coordinators was used, while both qualitative and quantitative analysis of current students and alumni online survey data were used to answer the second.

8.1 What do schools identify as key elements that underpin a successful CAS programme?

Section 6, discussing perceived benefits and outcomes of CAS, identified some of the elements that Coordinators perceive to be important in a successful CAS programme. These include the importance of novelty in students' experiences for facilitating change and the development of new, and existing, skills and attributes. Coordinators also specified the importance of students' enjoyment of CAS: this was connected to the identification of enjoyment by students as one of the chief motivators (Figure 5.5), and novelty and enjoyment are closely related to the strongest motivator identified by students: those who are the beneficiaries of their Service activities (Figure 5.6). Coordinators who spoke about creating a set of CAS experiences which students enjoyed and found worthwhile and meaningful were implying that the success of CAS can rest on motivating students to commit to participation in CAS activities. In sum, previous sections of this report suggest that a successful CAS programme depends on matching students with CAS activities they consider to be meaningful and enjoyable.

The CAS Coordinators online survey yielded data which included their perceptions of rewarding aspects of CAS that are shown, with illustrative quotes, in Table 8.1.

The results show a variety of ways in which Coordinators are involved with students in pursuit of a successful CAS programme. Getting to know students facilitates the process of planning CAS activities and keeping track of students' progress as time goes on. This enhances the accuracy of information which CAS Coordinators have about students, which students may find beneficial, particularly in the early stages of CAS, when they are inexperienced in the CAS programme or have never previously been planners and organisers of independent activities.

Of course, another benefit is that the Coordinator becomes very well-informed about students and the range of activities available. It would be interesting to ascertain what systems are in place in schools that support progress monitoring and whether effective approaches might be more widely shared. Clearly ManageBac is becoming increasingly widely used for CAS recording and monitoring purposes (as noted in Table 9.2 below), though on the basis of views expressed during interviews there would appear to be mixed feelings about its effectiveness for this purpose.

The pastoral aspect of CAS is clear when Coordinators write about themselves as guides, and there is genuine warmth communicated in the third theme (in Table 8.1) when Coordinators write about positive outcomes they have seen being experienced by their students.

Theme	Category	Illustrative Quote
Contact between students and Coordinators	<ul style="list-style-type: none"> • Talking to students about CAS • Getting to know students better • Guiding students through CAS • Monitoring students' progress 	<ul style="list-style-type: none"> • "Having regular consultations with my students." (54) • "The chance to cultivate the relationship with the students outside the class" (349) • "Helping them choose appropriate projects" (77) • "Following their progress and engagement. Many students are very engaged and often report back to me regarding their progress" (146)
Transformative outcomes	<ul style="list-style-type: none"> • On students • Through Service • Through general CAS activities • Discovering new interests • Shift in attitude to CAS 	<ul style="list-style-type: none"> • "See students grow in confidence, self-direction and maturity." (192) • "Involving in service projects and seeing the change in our students." (283) • "When students share how they have changed through their CAS experiences." (305) • "Seeing them engage in new activities that they come to love and find very rewarding." (529) • "The awareness and understanding that becomes evident when students 'get' what CAS is all about" (389)
Positive outcomes for students	<ul style="list-style-type: none"> • Engage in meaningful activities • Self-discovery • Students connect with the wider world • Students become initiators • Students experience joy/excitement • Successful completion of CAS 	<ul style="list-style-type: none"> • "When my students really get something valuable out of their experiences" (41) • "Some students are ... learning so much about themselves." (65) • "Seeing students get a feel for what life is like for many people outside of their usual sphere of contact." (102) • "When students are involved in service activity programs and take the initiative to plan, organise and execute the projects undertaken independently." (343) • "When students enjoy the experiences they have been involved with and get excited about what they are doing." (61) • "Students succeeding their CAS programme with a good attitude." (525)
Engaged Coordinators	<ul style="list-style-type: none"> • Helping students meet goals • Providing opportunities for students to fulfil CAS requirements • Helping students develop skills • Involved in CAS activities • Matching students to activities 	<ul style="list-style-type: none"> • "When the students achieve and are satisfied with their set goals." (100) • "Development of really valuable links with our community that allow for our students to contribute to authentic CAS goals." (216) • "Help students to explore new possibilities, to develop new skills" (340) • "Working with students in CAS groups - e.g. I run an Amnesty group, a Rhino Preservation group and the student newspaper." (170) • "Connecting students to projects they are passionate about" (175)

Table 8.1 'Other rewarding aspects of CAS are...' according to CAS Coordinators

The second and third themes are related but distinct in that the focus of categories in the second theme is on the *effects* of the CAS programme whilst the third is on students' *outcomes*. The second theme implies that, when CAS is meaningful for students, it is considered rewarding and complements the results shown in Section 5.3.1, where students identified irrelevant or meaningless activities as a drawback of CAS. Those CAS Coordinators who match students to activities that students find meaningful may be engaged in good practice. The tension between matching students to their interests and the benefit of engaging in new activities has already been considered, but it is worth reiterating that attempting to establish a good match may be an important approach in order to avoid putting students through CAS experiences which they consider pointless.

Coordinators' responses showed that they felt rewarded by positive outcomes for students and, as such, a programme which achieves this could be considered an effective one. That students become initiators is an interesting aspect of this theme. In order to be able to initiate and sustain a project or activity, a student will have to draw upon many aspects of the IB Learner Profile. Success in doing so indicates an effective programme. This relates to the earlier finding in Section 5.4 where development of attributes in the Learner Profile were identified clearly as a benefit of CAS by students. This suggests that programmes which are explicit about the aims of CAS as supporting the development of those attributes may facilitate students' understanding of the programme and feed its success. This is the foundation of a CAS experience that is meaningful to the individual student: that it is relevant to that student. As noted previously by an alumnus characterising two different types of students, all have different starting points when they begin their IBDP studies; for some who did not show initiative prior to starting the DP, it may be important to them to have the opportunity to initiate things themselves, but showing initiative may have less of an impact on those students who are used to being proactive.

It is also worth noting that a number of Coordinators mention students' happiness in relation to the rewarding aspect of CAS. Considering the opposite outcome, can it be the case that unhappy students point towards an ineffective programme? Whilst not suggesting that the relationship could be considered entirely causal, this is a point worth considering in relation to findings about students' well-being (Section 5.4). Happy students might be a useful way to gauge, if not the effectiveness of the aims of the programme, the likelihood that students are approaching the programme with positive attitudes and, therefore, are more likely to be motivated enough to engage in CAS activities and reap the benefits identified in this study.

Coordinators' comments revealed that, for many of them, the rewarding aspects of their role went hand in hand with their engagement in the programme, becoming very involved in providing what students need to fulfil the requirements of CAS. Elements of other themes are evident in these activities, such as knowing the students well enough to facilitate their goal achievement and knowing what is novel for students. Also identified in Section 5.4 are the students' perceived benefits of having access to a good range of opportunities for participating in CAS activities. It is clear that Coordinators agree when they identify this provision as a rewarding aspect of their role, with some taking it further and actually participating in the activities with students. This is indicative of the type of Coordinator who is so committed to the programme that they identify CAS as *reciprocally* beneficial:

"I give my students life lessons and along with them I too have learned so much. I feel that this program is not only for students but useful for teachers as well." (260)

If Coordinators have this outlook, which may arise through, for example, participatory pedagogical approaches, they are likely to impart some of the enthusiasm for the programme that will support an effective CAS experience.

The delivery of CAS is a complex responsibility which has several facets for the CAS Coordinator, as this quote serves to illustrate:

“Watching students grow as individuals and explore new strengths and interests, taking part in activities alongside the students, discussing goals with students and listening to reflections, making successful ties with the community.” (390)

8.2 Variables associated with specific outcomes of CAS

Quantitative analysis was carried out as a means of understanding the impact of variables from the online survey data on seven outcomes relating to student engagement and learning described in the CAS Guide (2008) (see Table 3.4).

In order to address the two research sub-questions, multilevel models were fitted with student variables at level 1 and CAS Coordinators/school variables at level 2 to predict seven different outcomes (see Section 4). Treatment of the sub-questions has been collapsed so that both school and student perspectives are addressed concurrently, analysed in the same models and represented in the same figures.

The first step in applying multilevel models is to analyse the percentage of the variance in the outcome that is explained by each level of analysis; in this case level 1 corresponds to student characteristics and level 2 to school or CAS Coordinator characteristics. That is, the variables used in level 1 come from the student survey and the variables used in level 2 come from the CAS Coordinator survey. Third from left, the column label RCTR abbreviates the desirable qualities of CAS activities listed at number 3 in Table 3.4: that they be real, a challenge, and prompt thoughtful consideration and reflection on outcomes.

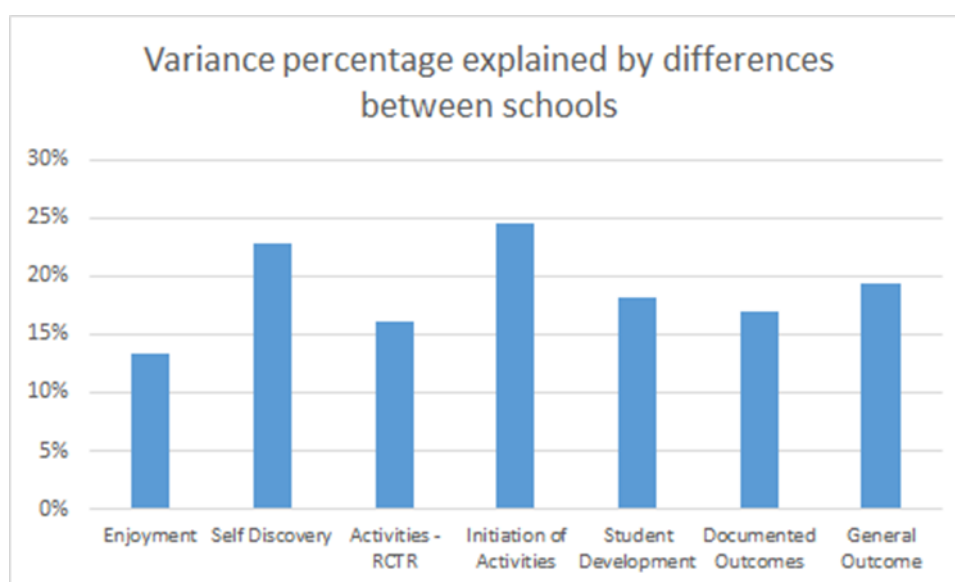


Figure 8.1 Percentage of the variance explained by school characteristics

As Figure 8.1 shows, most of the variance in the outcomes is explained by the differences in student characteristics. None of the outcomes register above 25% of variance explained by schools: the highest (24.6%) is initiation of activities and the lowest (13.4%) is enjoyment. Here, and throughout the

quantitative analysis addressing this question, it can be seen that most of the variables significantly associated with the outcomes correspond to the student level, not the school.

This result places key importance on the student experience. When students identify elements which motivate them, a CAS programme which endeavours to deliver these will have greater impact; when students are committed to CAS, when they enjoy it and when they find it meaningful, the impact of CAS will be greater than when the opposite is the case. The following section reports those key elements which students and alumni perceive as contributing towards a successful CAS experience and which, therefore, should be considered as the goals of good practice.

8.3.1 What do DP students identify as being the main elements that contribute to a rich and rewarding CAS experience?

Qualitative analysis was used to understand student perceptions of the key elements of a rich and rewarding CAS experience. The quantitative and qualitative results are presented respectively.

Further multi-level modelling was used to demonstrate the impact of variables associated with the seven outcomes of CAS which were operationalised from the 2008 CAS guide (see Table 3.4). Figures 8.1 to 8.6 correspond to the main results of the multilevel models fitted for each of the outcomes. Each bar represents one explanatory variable and the length of the bar corresponds to the size of the regression coefficient. Student-level variables are represented by blue bars and school-level variables by orange bars.

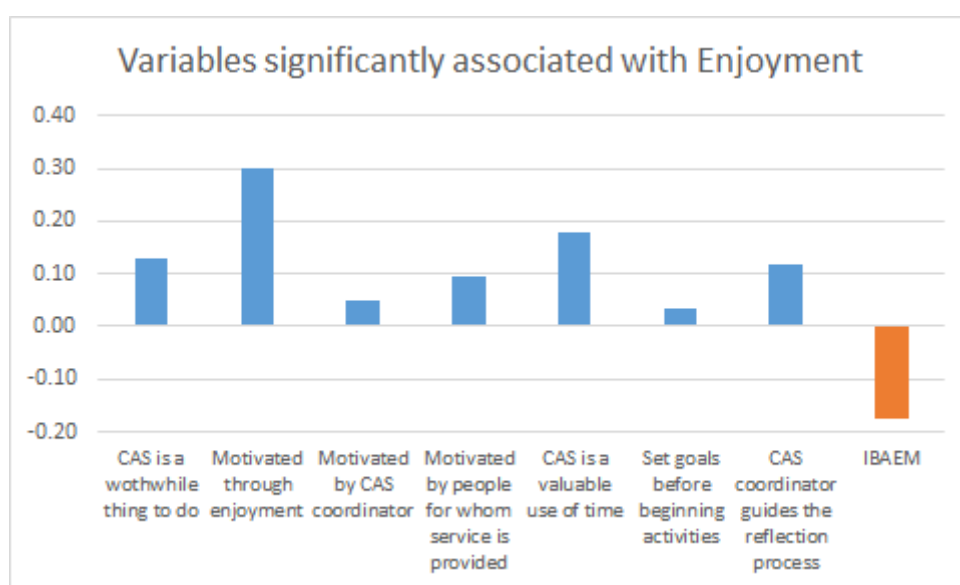


Figure 8.2 Variables associated with Enjoyment

Figure 8.2 shows the variables that establish a significant association with enjoyment of CAS. As expected, student motivation derived through the enjoyment of CAS activities established as the strongest relationship with overall enjoyment of the programme. This is supported by results of qualitative analysis of data from students and Coordinators, where enjoyment of activities is recognised to be a benefit of CAS (Section 5.4 and Section 8.1 respectively). The next three variables in order of importance are:

- Students perceive CAS as a valuable use of time;
- Students perceive CAS as a worthwhile thing to do; and

- When students are given guidance on the process of reflection on their CAS experience by the CAS Coordinator.

Regarding the characteristics of the school, only the region in which the school is located made a significant difference, with AEM creating a negative overall effect. That is, considering that all these variables are the same for all students in both IB regions, the region in which the school is located still makes a difference. This supports the findings in the qualitative analysis which showed that, when identifying drawbacks, AEM students wrote more frequently about negative aspects, such as stress, than did those in the AP region.

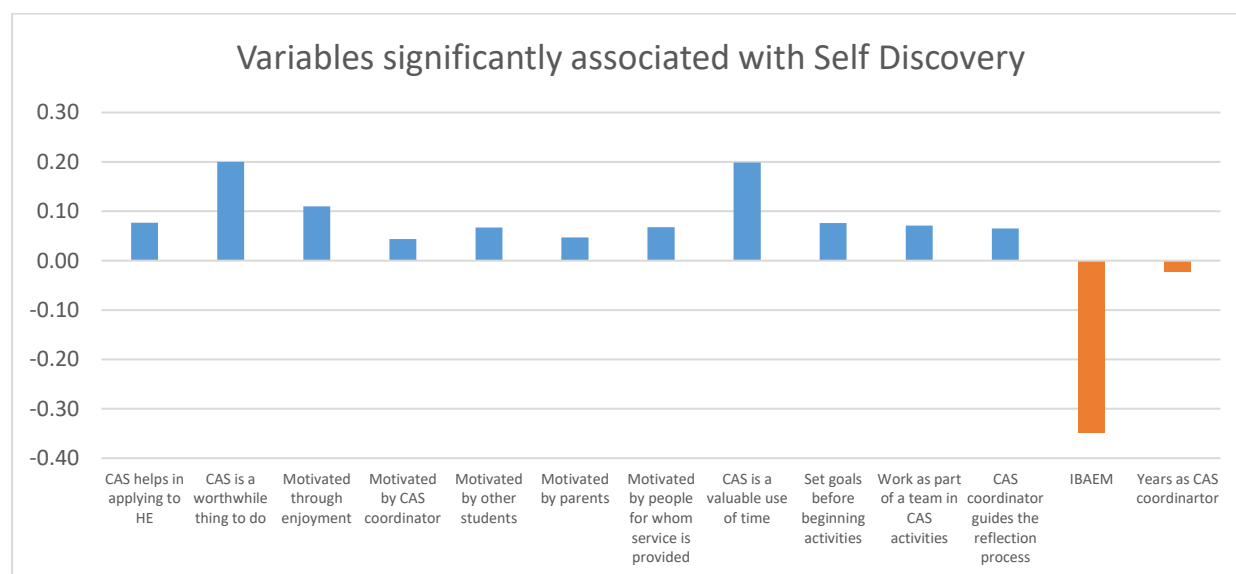


Figure 8.3 Variables associated with Self Discovery

Figure 8.3 shows the variables that establish a significant association with self-discovery as a factor contributing to a successful CAS programme. The two highest and equally significant variables are:

- Students perceive CAS as a worthwhile thing to do, and
- Students perceive CAS as a valuable use of time.

Only two characteristics of the school make a significant difference and both are associated with the CAS Coordinator. This analysis suggests that the impact of the Coordinator's activity is perceived by students as limited in comparison with some variables, although qualitative analysis of alumni data (Section 8.3 below) shows that the role of the CAS Coordinator is perceived to be a key element in a successful programme. Motivation by CAS Coordinator, other students, parents and Service recipients, as well the personal motivation from the students' enjoyment of CAS, shows a significant and positive relationship with self-discovery. The region of school location is associated with a significant variance in self-discovery, as with enjoyment (Figure 8.2), as a factor contributing to a successful CAS programme and good practice.

Another significant variable is the number of years the CAS Coordinator has held that role. However, and perhaps counter-intuitively, this variable establishes a negative relationship with the outcome. In

other words, the greater the longevity of the CAS Coordinator, the lower the level of self-discovery perceived by the students. It can be noted that 55.7% of CAS Coordinators have been in their job for 3 or fewer years whilst only 5.1% have been in role for 11 or more years. In terms of position longevity, the data show that when CAS Coordinators have 1-4 years' experience, their students report positive levels of development of personal attributes. From the fifth year of CAS Coordinator's experience, however, the association tends to be negative, suggesting that there is an optimal duration for the position of CAS Coordinator to be performed by the same person, after which a change in personnel may positively affect the student experience. This topic is one that requires further investigation, using both quantitative and qualitative approaches, in order to more clearly understand the relationship between CAS Coordinators' impact and the length of their experience.

Figure 8.4 shows the variables that establish a significant association with activities that satisfy the activity criteria for CAS from the 2008 CAS Guide. These criteria establish that all CAS activities should involve:

- real, purposeful activities, with significant outcomes;
- personal challenge – tasks must extend the student and be achievable in scope;
- thoughtful consideration, such as planning, reviewing progress, reporting; and
- reflection on outcomes and personal learning

(International Baccalaureate Organization, 2008a, p3).

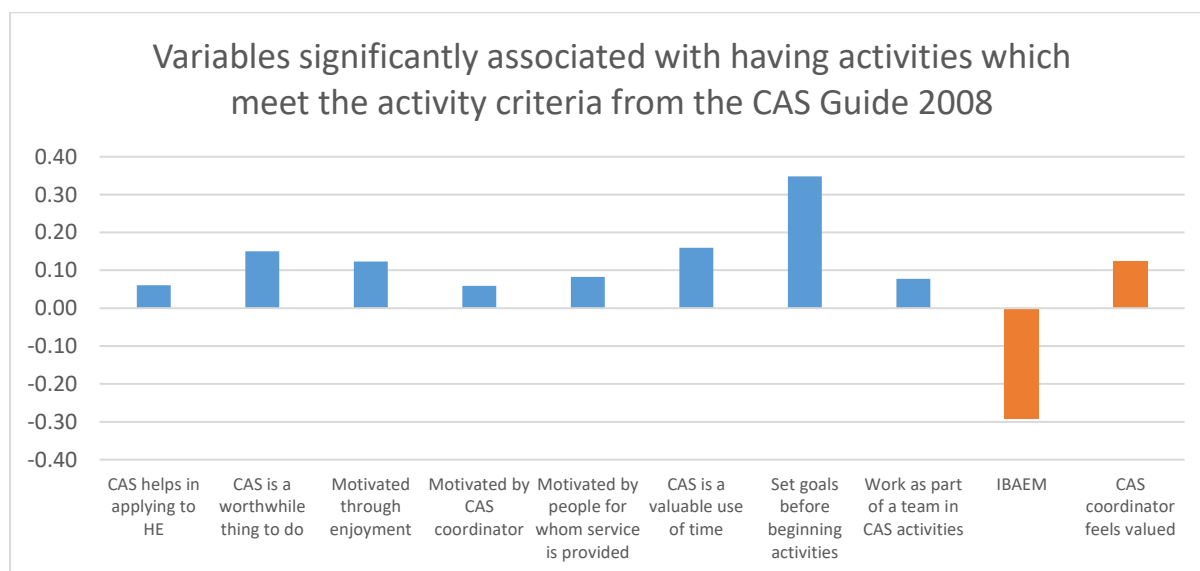


Figure 8.4 Variables associated with activity criteria (CAS Guide, 2008)

Figure 8.4 shows that setting a goal before beginning any activity is the most important variable. Earlier evidence showed that there was uncertainty amongst students about their CAS activities (Figure 4.2), and the importance of goal-setting prior to beginning an activity assumes more significance when aiming for a rich and rewarding CAS programme. Figure 8.4 shows again the significance of students' perceptions that CAS is worthwhile and a valuable use of time. Once more, fewer school characteristics have an impact on this outcome than student characteristics, providing further evidence that the geographical region of the school's location plays an important role. An

additional variable that has previously not featured shows that when a Coordinator feels valued, students are more likely to complete activities that adhere to the criteria.

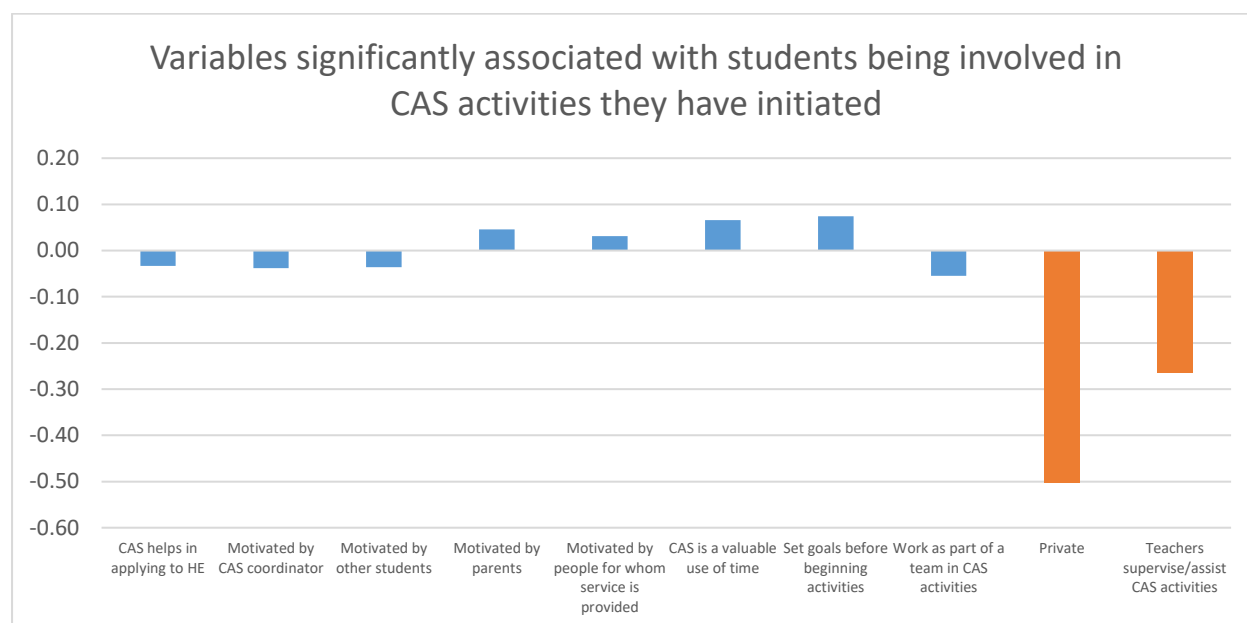


Figure 8.5 Variables associated with the initiation of CAS activities by the students themselves

Figure 8.5 shows lower levels of significance of variables associated with student initiation of CAS activities. Four of the variables register a negative effect, although this is predictable regarding ‘work as part of a team in CAS activities’, ‘motivated by other students’ and ‘motivated by CAS Coordinator’ since opportunities for individual initiation are fewer in collaborative activity. Likewise when CAS Coordinators or other students supervise or assist, decisions are negotiated and shared rather than originating from an individual. Perceiving CAS as a valuable use of time and goal-setting appear again, with the influence of parents featuring for the first time.

These results show that schools in the private sector identified as providing less opportunity for individual initiation. Again, perhaps this is to be expected; where private schools provide a fuller range of extra-curricular choices, students have less scope for individually initiated, non-school-provided, activity, or are less likely to initiate their own activities due to the immediate availability of activities and a school culture of activities being provided.

Analysis of variables significantly associated with development of attributes and documenting learning outcomes did not reveal any elements in addition to those reported already. Although not included in this summary report, they are presented in the longer, technical report.

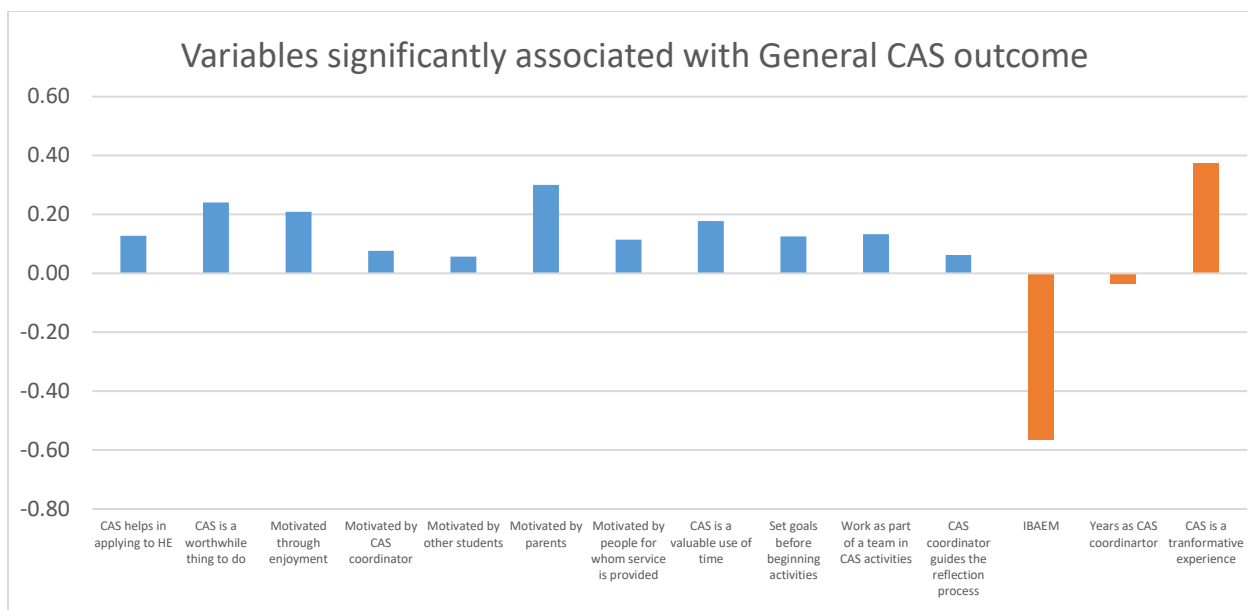


Figure 8.6 Variables associated with the general outcome of CAS

Figure 8.6 is an amalgamation of the analysis of the 7 variables corresponding to the overall outcomes and benefits as perceived by students. This outcome registers the highest number of statistically significant predictors of all the outcomes presented in the findings relating to this research question. Two variables appear consistently throughout the analysis as significant:

- students perceive CAS as a valuable use of time
- setting goals before beginning CAS activities

These are the two most significant elements for predicting a successful general outcome for students participating in the CAS programme. If a school is able to ensure that CAS is perceived as valuable, and if goals are set at the start of CAS activities, they are likely to be engaged in good practices for an effective CAS programme.

Most interestingly, Figure 8.6 shows that when CAS is taken as a whole, motivation from parents plays the most important role in explaining the students' perception of overall benefits of CAS. This is not the case when the outcomes of CAS are treated as discrete units, suggesting that the influence of parental involvement in CAS is greater than students perceive it to be. It is unsurprising, perhaps, that students whose family life encourages CAS participation are likely to have a better outcome from CAS.

Data from the Coordinators about parental involvement with CAS activities show that this is an area which some schools may consider, to positive effect. Figure 8.7 below shows that CAS Coordinators perceive 48% of parents to value CAS only sometimes or never.

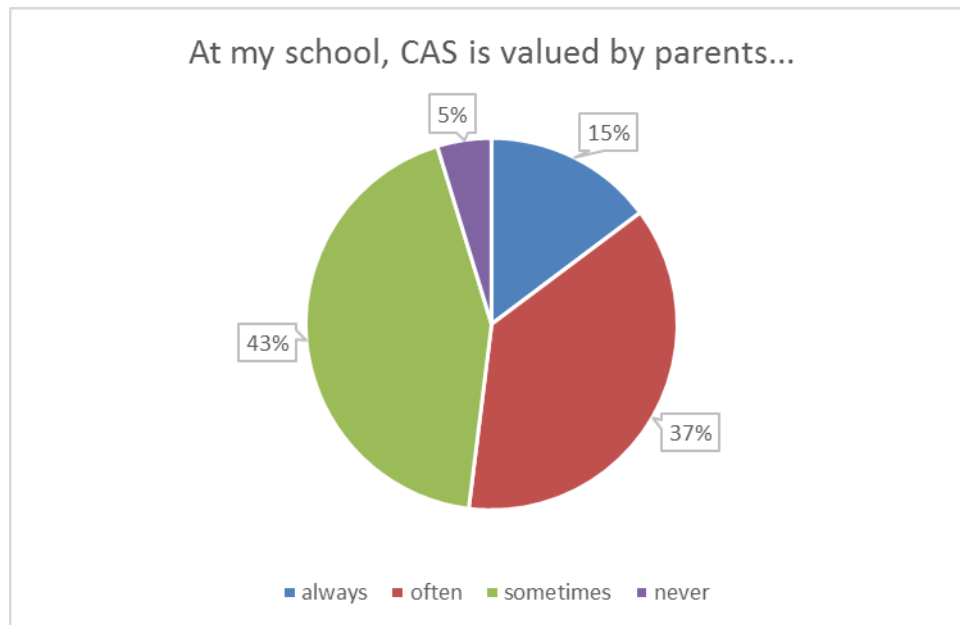


Figure 8.7 At my school, CAS is valued by parents ... according to Coordinators

As shown in Figure 8.8, below, CAS Coordinators report that many parents (70%) get involved in CAS activities either only slightly or not at all. If the influence of parents is as closely connected to the impact of CAS on students as these data indicate, then these figures suggest that if schools are able to encourage the parental body to value and become involved in CAS, this will increase the potential impact of CAS on students.

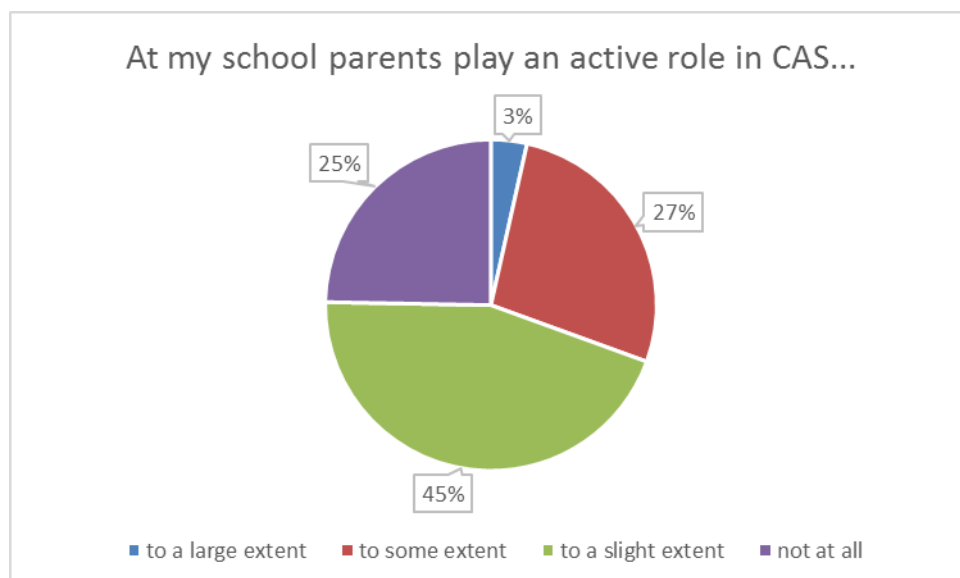


Figure 8.8 Parents get involved in CAS activities ... according to Coordinators

Referring back to Figure 8.6, it is notable that perceiving CAS as a worthwhile thing to do and other motivational variables are again significantly and positively associated with the overall CAS outcome.

Consistent with results from the previous outcomes, the geographical location of the schools establishes a significant association favouring the AP region. The school characteristic with the most positive association with this outcome is 'CAS is a transformative experience'. As with parental motivation, this variable does not feature prominently when CAS outcomes are separated but gains importance when CAS is considered as a whole, focusing on the overall outcomes.

Analysis of the qualitative data provides specific examples of the elements identified by students and alumni as contributing to a successful CAS experience which illustrate the quantitative findings, and corroborate many of the positive benefits already identified by these groups in Section 5 of this report. Five categories, *in addition* to those already identified as benefits by students (Tables 5.3 and 5.4), emerged in the thematic analysis of this question and indicate elements that are necessary for a programme to be perceived as successful by students.

Category	Description
Variety	CAS strands mean students' activities are varied
Challenge	CAS makes students push themselves
Self-knowledge	CAS results in students finding out new things about themselves
Discover new interests	CAS leads to new passions & interests
Reflections	Reflections make sense of experience and help students move on

Table 8.2 "CAS was successful because ..." according to students

Table 8.2 shows that a varied and challenging programme is one which students will perceive to be successful, as is one that results in students finding out new things about themselves and discovering new interests. Good practice will ensure that there are a range of activities and novel and challenging experiences from which students may choose their CAS activities, and, as noted in relation to Figure 8.5, those schools that are able to provide a wide range may be more likely to have students who feel satisfied with their CAS experience.

It is interesting that reflections are identified as part of a successful CAS programme, when the process of writing the reflections featured prominently in the drawbacks identified by students (Section 5.3.1). For those who wrote about reflections as part of a successful CAS programme (Section 5.4), the stress was on its role in making sense of experience. Good practice would ensure that the role of reflections is an integral and meaningful part of CAS for students.

Some students' reflections attempted to provide a more profound response to this question. One suggested that successful CAS is "realising that completing CAS is not about the hours" (31: AEM) which implies a revelation about the purpose of the programme consistent with the Coordinators' identification of the reward of seeing transformation in students with respect to CAS (Table 8.1).

Another student drew a comparison between common CAS activities and the extent of a student's engagement in the programme:

“If you actually locally engage socially and not just do work for teachers or go on an outrageously expensive trip.” (46: AEM).

This quote reflects the finding of this project that CAS will have greater impact when students regard CAS as meaningful. Influences affecting the way students understand and value the programme, and additionally the resources available to fulfil the requirements, relate closely to the way CAS is valued within schools; thus the value schools place on CAS will affect the resources available and, consequently, the impact of the programme on participants.

8.3.2 What do DP alumni identify as being the main elements that contribute to a rich and rewarding CAS experience?

Qualitative data provided an insight into elements that alumni identified as contributing to a successful CAS programme (Table 8.3), with the emerging sense of the importance of ensuring meaningful activities to engage the students corroborating evidence above. However, in addition, alumni report that to get the most out of CAS a student has to be prepared to commit to the idea of CAS and to new activities. The former is closely related to the standing of CAS as it is perceived in students' schools and homes, suggesting that 'CAS schools' will produce 'CAS students'.

Theme	Illustrative Example
Access to activities	“CAS allowed me to gain experience leading a community service programme, which helped me start a career in the 3 rd sector. It also furthered my passion for playing/writing music, a hobby I still maintain.” (146)
Engaged students	“If the student picks CAS activities which they find fun, it will not be work and will be enjoyable, and a great break from regular studies.” (182)
Student Commitment: <ul style="list-style-type: none"> • to the idea of CAS • to new activities 	<ul style="list-style-type: none"> • “More so than a positive attitude, just the willingness of the student to get involved with things” (386) • “Patience to try out an activity for a reasonable amount of time” (526)
CAS staff	“It is important to have a strong support from the IB team at the school and it is also important that the school helps students to find suitable tasks” (833)
Being clear about CAS	“Perhaps a clearer understanding of the benefits of the CAS program to students would help drive adoption and better attitudes.” (281) “Clear and defined objectives and Goals for the CAS project.” (208)

Table 8.3 Additional aspects for a successful CAS programme...according to alumni

Table 8.3 also shows that alumni value the support of CAS staff, in matching students to meaningful activities and making the programme clear. Alumni perceptions shown here corroborate quantitative results emphasising the importance of setting goals for CAS activities if they are to have successful outcomes.

To summarise the results in relation to good practice from this and previous sections of the report, findings show that students and alumni consistently identify the importance of seeing CAS as worthwhile, and of setting goals for CAS activities that are clearly related to the programme's outcomes. Parental influence is greater than students perceive, and when CAS is valued in schools and families, it is likely also to be valued by students. This is important since, as already shown, students who value CAS are more committed to the programme and the outcomes are likely to be of more benefit to them.

CAS is considered by all stakeholders to be successful and can be described as rich and rewarding when it is transformative. Student transformation – as change or development – is perceived when schools can match CAS activities to students' interests, when the activities are meaningful to the student, when there is a variety of experience and when students experience novel situations and are taken out of their comfort zone. The implications for practice are that Coordinators and students need to work together to ensure that students are matched with meaningful activities. A school can consider itself to be engaging in good practice when these elements underpin its CAS programme.

Good practices for an effective CAS programme can be summarised as follows:

- Practising collaborative pedagogy
- Ensuring activities are meaningful to students
- Setting clear goals before starting activities
- Ensuring activities are enjoyable for students
- Including novelty or challenge in activities

8.4 What are good practices for implementing an effective CAS programme?

It is important to acknowledge when discussing good practice that approaches that make sense in one setting may not be achievable, or desirable, in another. A range of examples are presented below which stakeholders perceived to be good practice. Rather than being considered a prescription for effecting a successful programme, the inclusion here of examples of good practice is intended to highlight for practitioners new possibilities which might spark new ideas for CAS practice in their own settings.

This part of the report presents a selection of good practices which achieve some or all of those outcomes or benefits identified in previous sections, or address some of the areas for improvement suggested by the findings. Firstly, evidence arising from analysis of the CAS Coordinators data with examples is presented under a heading which conveys a key idea inherent in the practice described, with clarification from a brief additional commentary. This section is followed by specific further examples of good practice from Coordinators data and, finally, ends with some ideas that arose specifically in relation to the project element of CAS.

8.4.1 Good practice from Coordinator data

1. Organise an event to focus on a strand

“Planning projects, especially service projects, together with the CAS students. Our Service Challenge Day, meant as introduction to Service, had been planned in three stages with the actual Service Challenge Day as the culminating event.” (213)

Working jointly with students and being clear about the content may have a variety of benefits: the profile of CAS within the school will be raised; the clarity of objectives may be improved (addressing the uncertainty apparent in Figures 4.2 and 4.4); and joint activity will encourage a collaborative way of working and so enhance the relationships between staff and students that underpin a successful CAS experience.

2. Make CAS frequently timetabled

“I have a CAS class and I see every student every other day for 18 months. I know the students inside and out, I understand their struggles and celebrate their achievements with them. I have the best job ever!!!!” (201)

The practice of timetabling CAS classes will increase the time students are given for CAS planning and reflections; it will enhance the Coordinator's knowledge of the students and make it more likely that students will be matched with activities they find meaningful and enjoyable; and it will make it easier for Coordinators to monitor progress of students over the course of the IBDP.

3. Make CAS clear

“For service, we work with refugee camps, food kitchens, building a straw bale house, local disability centre, team teaching English in our local primary etc ... I provide training sessions for all of these activities as well as feedback sessions.” (304)

With some uncertainty apparent amongst students as to whether their projects combine two or more strands (Figure 4.2), a programme which has a clear focus on training for activities may dissipate some of the uncertainty; this point was reported by slightly more AEM than AP students.

4. Maintain regular contact between Coordinators and students

“Following student programme through individual meetings.” (233)

Regular contact between Coordinators and students throughout CAS and the IB Diploma programme will help keep the profile of CAS high for students. It will also enable staff to facilitate the monitoring process, in terms both of the progress towards meeting CAS requirements and of the well-being of the student.

5. Maintain the profile of CAS throughout the wider school community

“Publicizing achievements, ensuring that the school community is informed about CAS, reporting student achievement to IB.” (484)

Maintaining a high profile for CAS within the school will serve to involve more staff and may help to improve the connectivity of CAS with academic subjects and raise its status in relation to academic subjects.

6. Support Coordinators in identifying suitable activities

“Making contacts with the community to enable students to have a range of CAS activities.”
(414)

Schools with a wide range of available options from which students can choose their CAS activities are likely to be able to match students to activities that they find enjoyable and meaningful. This will have an impact on their motivation to become fully involved in CAS which, in turn, will improve the benefits and outcomes of the programme for the student.

7. Establish projects which will outlive cohorts

“We have several examples ... that have become legacy projects that subsequent students have taken on or adopted.” (143)

The notion that CAS is a 'legacy activity' is potentially very powerful in terms of creating a CAS culture in school and perpetuating and celebrating the successes of IBDP students year on year. If CAS is to have an impact, its place within the culture of the school is of prime consideration; an in-built series of events which, for example, raise funds for subsequent year groups' CAS trips will ensure that CAS is not a peripheral programme for students.

8.4.2 Coordinators' suggestion for general good practice

The Coordinator survey included indications that some Coordinators have an appetite for sharing their own practice with others, offering to share documents (192) and CAS handbooks (395), and describing some innovative practices which had worked for them, such as a dedicated Service Coordinator (159), summer service learning internships (329), a website to spotlight students' achievements (117) or their shared, ongoing reflections (359). One Coordinator's notable response revealed a passion for the Service element of CAS that acknowledged its potential power for good beyond the confines of the school setting:

“We would love to collaborate with other IB schools to extend our support during natural calamities and tragedies. Although the impact of one school's efforts are not negligible, the combined efforts of multiple IB schools on Service projects for rehabilitation in Nepal for example would create a real impact on the communities directly affected. I would like to request the IB to please create a forum for CAS Coordinators to facilitate/coordinate service activities at an international scale. Also if the IB could help gain an entry point with international organisations such as the United Nations then IB students could reach out to a larger community and be involved in ongoing, real projects that bring about a tangible impact to the world.” (192)

8.4.3 Good practice examples – the CAS Project

The potential of the project to create an impact which extends beyond the individual was evident in the qualitative data analysed in Section 4. As noted above, the Project in particular could benefit from the sharing of good practice as this was where the range of interpretations of what ‘counted for CAS’ appeared to be most varied. Here, a few notable examples are shared.

1. Use ongoing activities to target charitable outcomes:

“Choir, we are doing many pieces, notably African Sanctus by David Fanshawe where the funds will support charities such as [a] Youth Trust in [this country].” (212, AEM)

Establishing a link with a charity can increase the impact of CAS, and has the potential to reach beyond individual students and even the school to make a valuable contribution to community groups over time.

2. Set up an after-school club for Charity activity:

“I am working with a charity club using service and creativity. Organizing, preparing and selling at bake sales and having a voice at meetings as well as creating posters and other activities.” (294, AEM)

Embedding CAS activities into the extra-curricular programme can facilitate skill development for those students running the groups but can have the additional impact of raising the profile of CAS activities amongst other students and raising the profile of CAS within the school.

3. Establish legacy activities that benefit future cohorts:

“I organized a FIFA tournament along with my tutor group to raise funds in order to fund the future Service programmes in school.” (195, AP)

Similar benefits to those described in point 7 in the previous section are added to when the legacy activity is established by students.

4. Organise projects incorporating activities with clear CAS strands:

“The X trip was a combination of all the three components of CAS; 1) Service was a major part as we went there with the objective of cleaning the beach of X; 2) Action was fulfilled as we went on a small trek to the temple on a higher ground than where we were staying; 3) Creativity was fulfilled as we had to make a video on our journey to and from X.” (578, AP)

It is evident that this student attended a school where CAS activities were clearly identifiable by strand. In terms of finding evidence to support CAS activities, this improvement in clarity will support students when identifying learning outcomes in their reflections, and will also make more transparent for

monitoring purposes the progress students are making towards meeting the programme requirements.

5. Encourage students to find something they can be passionate about

“I have been suffering from psoriasis since I was a kid and I honestly think there isn't enough awareness about this skin condition. I strive to achieve more knowledge about it and inform people unfamiliar [with] psoriasis that it is not contagious in any way and that it is a very common condition that requires more understanding and acceptance in the public. I use my spotted skin for artworks and photography through social medias (*sic.*) to get people to understand and comfort those suffering from it.” (34, AEM)

When a project is personal, it is more likely to be meaningful to the student and incorporate many of the essential elements which schools have identified as underpinning a successful CAS programme, such as increasing commitment and motivation, and is more likely to result in benefits for the student.

6. Encourage students to think big

“The project is called “ABC” and our aim is to create an awareness of street children in XYZ through the use of social media. We believe that social media can be used for good things and also has the power to reach a wide range people from different places. It is founded by 6 teenagers (including myself) and we try to create an awareness through our instagram and website by telling stories of those street children that we have a relationship with.” (227, AP)

The ambition of this project is tempered by well-thought-out practicalities for its achievement. There is also a direct link between what this project is setting out to achieve and the overall mission statement of the International Baccalaureate Organization.

In the examples included here, there is evidence of a range of factors identified by this research as leading to a CAS programme that is effective and has the highest potential to make an impact on students. Enjoyment is clear in descriptions of the projects, and students describe activities that are personal and meaningful to them; new skills are being developed, clear goals are implied, and challenge and self-discovery infuse the last two examples above. Enthusing students to challenge themselves is likely to lead to a CAS programme which brings benefits to students, whatever their interests or previous experiences. This report's findings suggest that there can be impact which extends beyond the benefits to the individual students; this is considered in the concluding section of this summary report.

9. Conclusion

This research has shown that CAS is largely perceived positively by students, Coordinators and alumni. Findings about the impact of CAS require a nuanced reading of the data: in keeping with the characteristics of this element of the IBDP core and the overall aim that it contribute to the holistic nature of an IB education, a quantifiable outcome to this aspect of the research is difficult to justify or measure. Taking an oblique approach to understanding the impact of CAS involved gathering the perceptions of stakeholders on some key areas which were considered to be associated with identifiable benefits and outcomes for students. Whilst the benefits are positive, the outcomes can vary. Identifiable benefits and outcomes that are attributable to CAS can be considered in terms of the impact of the programme.

Another aspect of impact was its relation to communities. In this report, impact is understood through stakeholder perceptions and, firstly, refers to the wider school community which includes parents and guardians. Secondly, it was considered to refer to those beneficiaries of CAS activities beyond the stakeholders. Thirdly, the impact on communities was considered to pertain to those activities of alumni which were considered attributable to CAS, which continued post-IBDP, and which had an impact on non-school communities. Again, impact is understood to be the perceived benefits and outcomes attributable to CAS activities.

The concluding section of the report, therefore, relates the research findings to these areas of impact.

9.1 The impact of CAS on students

Overwhelmingly this research has shown that CAS activities are perceived positively by stakeholders and attract high levels of agreement across all three stakeholder groups about the benefits and outcomes of the programme. Benefits include students' recognition that involvement with CAS has led to an improvement in their communication and collaboration abilities, Coordinators identifying benefits in the form of students acquiring new skills, and alumni as leading to personal development. Section 8 demonstrated that throughout the analysis the most significant variables are at student level. This elevates the students' perception of CAS in terms of the impact it can have and has implications for wider impact through schools, Coordinators and communities which will be discussed below.

9.1.1 Impact of CAS in development of LP attributes

Most students identify a range of benefits from participating in CAS which have changed them (Figure 5.3) or have developed existing attributes (Figure 5.12), and which all contribute to the general outcomes that CAS is designed to achieve (Table 3.4). Analysis in Section 8 showed that two of the most significant variables associated with achieving the general outcomes of CAS occur when students value CAS and goals are set prior to starting activities. Identification of separate aspects of CAS perceived to have less impact than others in relation to the aims of IBDP education as a whole overlooks the holistic endeavour of the programme.

The IB Diploma curriculum was designed, from the outset, to encompass a number of central features which were intended to ensure that the programme overall would be

- rigorous
- balanced
- coherent

- international

within a framework that would facilitate a holistic learning experience for students. Continuity across all the IB programmes in these respects is expressed through the Learner Profile (LP), comprising ten dispositions. These are intended to characterise student learning outcomes as a result of participation in an IB programme. All elements of each programme are intended to contribute to the development of the dispositions. The relative strengths of agreement that CAS had contributed to the development of the dispositions, for the three stakeholder groups, are illustrated in Figure 9.1, which shows the weighted mean value for each disposition.

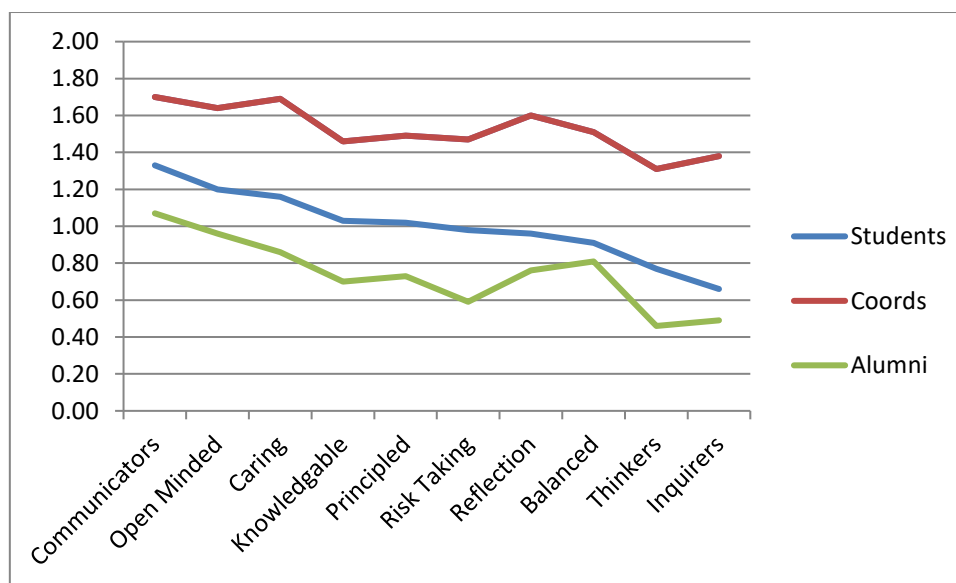


Figure 9.1 Weighted mean values for the Learner Profile dispositions, by stakeholder group

Figure 9.1 illustrates how each of the three groups perceive CAS to have contributed to the development of the Learner Profile dispositions, with CAS Coordinators strongest in their agreement across all the dispositions. The student group has stronger agreement than the alumni. Figure 9.1 also shows how similarly the stakeholders agree which dispositions are developed more by CAS than others. Development as thinkers and inquirers are dispositions perceived to be least developed by CAS, whereas becoming better communicators and more open-minded are viewed as being most developed by the programme.

The impact of CAS in relation to the uneven development of Learner Profile attributes is of interest when relating to the types of CAS activity recorded as being undertaken (as reported in Section 4):

- in Creativity, performance activities were extremely popular and were largely in groups, such as school productions, choirs and orchestras;
- the sport in teams was very prevalent in the Action strand; and
- the Service activities were almost entirely inter-personal.

It follows logically that students, through repeated contact with others, would develop the affective attributes of communicators and those who are open-minded. CAS is less associated with the development of cognitive aspects of the Learner Profile, emphasising a perception of CAS learning that keeps the cerebral distinct from the physical. Would the impact of CAS be greater if CAS activities were initiated with the aim of developing students as thinkers and inquirers?

Overall, CAS is perceived by stakeholders to contribute to the development of Learner Profile dispositions, and elements in the practice of implementing CAS which support this are summarised next.

9.1.2 Elements of a successful CAS programme

There were several aspects which students identified as part of a successful CAS programme (Table 8.2), which can be summarised as:

- variety
- challenge
- bringing self-knowledge
- discovery of new interests
- making sense of the new experiences/effective reflections

Novelty is a unifying factor across these elements. Amongst the variety there is increased likelihood that new experiences and new interests will arise, and also that students will find these challenging; from making sense of the new experiences they can discover more about themselves. Therefore, it can be reported that a successful CAS programme will include aspects that introduce students to new experiences and, to paraphrase from the student data, will take them 'out of their comfort zone'.

In addition, alumni rated a number of features which contributed to a successful CAS programme (Table 9.1). Strong agreement amongst alumni is seen concerning the importance of having sufficient choice and time to participate in a range of activities, and a positive attitude from students.

Contribution to overall successful CAS experience	Alumni Weighted Mean Value
<i>Student had a choice of CAS activities</i>	1.51
<i>Sufficient time for students to participate was allowed</i>	1.49
<i>Positive attitude on the part of students</i>	1.48
<i>Support from CAS Coordinator</i>	1.25
<i>Support of teachers generally</i>	1.21
<i>Parental interest in CAS</i>	0.28

Table 9.1 Relative agreement among alumni re contributory factors to overall successful CAS experience

Table 9.1 echoes those findings arising in current students' and alumni qualitative data (Tables 8.2 and 8.3 respectively). Firstly, all three data sets identify the importance of having access to a range of activities. Secondly, the recognition of commitment to CAS either as 'engaged students' (Table 8.3), a

'positive attitude on the part of students' (Table 9.1) or current students' mention of challenge (Table 8.2) all imply that activities should demand attention and commitment from participants. Thirdly the data sets all showed that making sense of the CAS activities was essential to a successful programme.

It is concluded from the concurrence of factors identified by alumni and current students that a variety of novel CAS activities to choose from, strategies to encourage student engagement, and the process of coming to understand new aspects of themselves and the world through those activities, are elements which underpin a successful CAS programme. Brodie (2014) warned against schools adopting a reductive approach by providing a 'menu' of activities; this research agrees that if broad-brush provision is less likely to provide novelty and variety to engage students, it should be avoided.

Additionally, this research suggests that schools who integrate CAS activities and learning through reflections may be helping to underpin a successful CAS programme. Indeed, 87% of Coordinators agreed that they undertook this task individually with students, often to always. However, existing research on CAS and reflection corroborates findings from this research that the reflections are perceived by students to be a double-edged sword, being viewed by students as both a help and a hindrance. Cambridge and Simandiraki (2006) and Brodie (2014) suggest that although students value the activities there is a tendency to view record-keeping as repetitive and burdensome. Kulundu and Hayden (2002) note that CAS activities do not inherently lend themselves to the reflective process. Perry (2015) warns of unwanted effects of reductive *pro formae*, including Managebac, which do not encourage deep reflection. He recommends instead periodic essays and verbal interactions to achieve more profound links between experiences and learning. Managebac was being used by the majority of IBDP students (56.4%) in this study, although a range of alternatives are evident (Table 9.2). Successful reflective practice which incorporates Managebac could, perhaps, usefully be shared and developed amongst CAS staff.

Form of CAS experience recording	% Use (student Overall)	% Use (student AP)	% Use (student AEM)
ManageBac	56.4	61.8	52.8
Journal	31.7	31.4	32.4
Portfolio	17.7	18.9	16.8
Video/DVD	13	15.9	10.8
Blogs	8.2	6.7	9.5
Scrapbook	5.6	5.6	5.5

Table 9.2 Rank order of forms of reporting and recording CAS experience by students

Wasner (2016) contends that reflection, integral to the learning process, can arise in participatory pedagogical approaches between reflective students and reflective practitioners "in a cycle of knowledge creation" (*ibid.* p5). The means by which reflections are incorporated in the programme must make a difference to the way students learn to understand the CAS activities, and the role of the CAS Coordinator in facilitating this is crucial to the way the programme is perceived. The extent to which Coordinators can match students to novel experiences which provoke personal challenge will also affect the impact of CAS. In sum, maximising novelty for individual students and supporting meaningful reflection upon the experiences that comprise CAS points towards a personalised CAS programme. A pedagogy which can support personalisation and a CAS Coordinator who successfully communicates the values and purpose of CAS to students are likely to have a positive impact on students.

9.1.3 CAS Coordinators and the impact of CAS on students

Indications are that CAS Coordinators are closely connected to the success of a CAS programme. It follows that the support schools provide for Coordinators in delivering CAS will have an impact on the outcomes for students. Coordinators reported on the extent to which they believed their school had a system in place to support and guide students through their CAS programme with an overall level of agreement of 77% (AP 84%, AEM 73%). Overall therefore, 23% reported the absence of such a system, with 37% of CAS Coordinators in AEM returning this view. For those identifying themselves as CAS advisers, the overall figure for provision was 59% (AP 67%, AEM 55%). These relatively low levels of agreement with what is intended to be a desirable system of support are surprising.

Also surprising is that many Coordinators perceive that not enough time is allocated for the role. For the vast majority of respondents (68.2%), coordination of the CAS programme is undertaken by those who also have other responsibilities within school: class teacher (47.3%), head of department (10.6%), IB Diploma Coordinator (5.6%), and senior administrative posts including principal/head (4.7%). A further 30% also listed a wide range of other duties and commitments.

Percentage of time spent in CAS coordination	Percentage of Coordinators with the allowance given by school in personal workload			Percentage of Coordinators spending time on task		
	Overall	AP	AEM	Overall	AP	AEM
Zero	9.7	11	8.9	0	0	0
5%	17.4	14.1	19.5	5.4	3.2	6.9
10%	20.1	22.5	18.5	10.4	11.6	9.6
15%	12	10.5	13	9.3	9	9.6
20%	12	10	13.4	15.1	14.2	15.8
25%	6.4	6.3	6.5	12.7	13.7	12
30%	6	6.3	5.8	11	15.2	8.2
35%	1.9	1.6	2.1	4.6	4.2	4.8
40%	3.9	5.8	2.7	10.8	9.5	11.6
45%	1.7	1.6	1.7	1.2	0.53	1.7
50%	3.5	3.7	3.4	8.7	6.3	10.3
>50%	5.4	6.8	4.5	10.8	12.6	9.6

Table 9.3 Distribution of percentages of time spent on CAS coordination and in workload allowance, overall and by region

Table 9.3 indicates a discrepancy between the time that the CAS Coordinator role takes up in practice and the allowance provided in the workload distribution by their school, adding to the challenge of balancing responsibilities as CAS Coordinator with the other demands on their time. Indeed, only 17% of survey respondents stated that they did not feel overloaded by their responsibilities.

This study's findings show that Coordinators are cognisant of their pivotal role in connection with the status of the programme in school. 87% of Coordinators agreed that they felt valued by others – being perceived as having a leadership role in the school (80%) and being sufficiently supported by senior managers (84%) who had a good understanding of the role (80%). More than 83% of the responding Coordinators agreed that they felt part of a team involved in the organisation of CAS. Coordinators indicated the relative value attached to the CAS programme by particular stakeholder groups, with the order being as follows:

(Senior Managers/Administrators > Students) >> (Teachers > Parents)

(where >> is 'much greater than')

The perceived value attached to CAS by different stakeholders in turn affects CAS Coordinators' perceptions of the status associated with their own role by those stakeholders. The relatively weak value attached by the parent body (see also Figure 8.7) should point to this area being one to attend to considering the high impact of motivational parents on the general student outcomes of CAS (Figure 8.6).

One responsibility taken on by CAS Coordinators is the provision of training and professional development activities for teachers involved in CAS. 78% of respondents indicated they were personally wholly or partly engaged in the process, which means that approximately one in five CAS Coordinators in this study were never involved in such activities at all. 62% of Coordinators never arrange for others to provide professional development support for the teachers involved (AP 59%, AEM 64%). This reveals a discrepancy with findings in this study where more than half of Coordinators (57%) reported feeling isolated, from sometimes to always; a discrepancy which conveys a sense that the successful implementation of the CAS programme may not always be a shared staff endeavour.

Existing literature suggests that some CAS Coordinators are 'champions' of the programme (Martin *et al.*, 2016; Perry, 2015). These are Coordinators who are fully supportive of the aims of CAS and committed to its spirit. The value which Coordinators place on CAS, in addition to the extent to which they have the resources, time and training to deliver CAS, have implications for the extent to which CAS is an embedded, rather than peripheral, element of a school's culture. A school which values characteristics inherent in the CAS programme, such as learning through experience, and reflecting and developing the self, is likely to inculcate that value in its students. This leads to the conclusion that CAS is successful when students perceive CAS to be valuable. Therefore, there will potentially be a difference of impact on participants in schools depending on whether CAS Coordinators are supported in making CAS an integral and valuable part of a school's culture.

9.1.4 Limitations of CAS to make an impact on students

This study has focused solely on CAS and it is noted that this is one of three core elements within the IBDP curriculum; its impact needs to be understood within that framework. There were, however, limitations identified by stakeholders which were particularly attributed to the potential of CAS to make a positive impact. A significant minority of respondents claimed that CAS had little or no benefit to them: Figure 5.13 showed 20%-25% of students disagreed that CAS prepares them either for future life or for university, and similar figures were evident amongst alumni (Table 5.6); there was also strongly voiced criticism evident in the students' qualitative data, even when they were asked to identify benefits (Section 5.4). The quantitative analysis indicated that there may be a regional difference in the perception amongst students that CAS is a valuable use of their time (Figures 7.9 and 7.10).

An unsuccessful CAS programme can be considered to be impoverished in respect of elements which have been identified in connection with a successful programme (Section 9.1.2). Hence, a parent body which does not motivate students to do CAS, a lack of goal setting prior to CAS activities, students not finding CAS worthwhile (Figure 8.6) and practices which lead to students' perceptions of CAS as devoid of variety, challenge and meaning, which do not support self-knowledge or discovery of new interests, and where reflections are not used to make sense of these new experiences (Table 8.2), will all lead to a CAS programme with limited impact on students. Additionally, CAS will not be successful in schools which cannot provide a variety of novel and challenging experiences to their IBDP students; nor in school cultures which do not value CAS; nor in schools which do not support the delivery of those elements found to be key to a successful CAS programme.

9.2 The impact of CAS on communities

The student experience of CAS is central to the potential of the programme to have an impact. Understanding of the impact of CAS on communities is drawn from the perceptions expressed by stakeholders regarding the benefits and outcomes associated with those in the wider school community, such as parents and guardians, those beyond the school who experienced benefits of CAS activities and those alumni who have left school and continued to participate in activities in their post-school communities.

Figure 8.6 showed that the impact on the general outcomes of the programme was highest when students perceived their parents to motivate them to participate in CAS. Parental support for IBDP core programme delivery is bound up with family environments and the values inherent within them. As with the point made above regarding the relationship between schools having values coinciding with CAS and the impact of the programme on students, it is likely that family values which complement CAS values will reinforce the development of those student outcomes that emerge through participation in the programme. Figure 8.7 showed Coordinators' perceptions that only 48% of parents value CAS sometimes or never, while Figure 8.8 shows that parents rarely or never (69.4%) get involved. The impact of parental values on the outcomes of CAS has not been researched to date and the findings of this report fall short of shedding further light on this phenomenon. In addition, some of the Service activities and Projects which take place within school have an impact on non-IBDP students in other years of IBDP students' schools; these are discussed next.

Students in this study strongly agreed that the beneficiaries of the Service activities motivated them. The impact of the Service and project activities reported in Section 4 indicate that students are involved with a wide range of charities and community groups (Tables 4.3 and 4.4 respectively). From this it can be inferred that CAS activities have an impact on a wide range of recipients. These may be within the school community and arise either directly through face-to-face encounters, such as when students become involved in teaching or mentoring younger students, or indirectly through school fund-raising work or organising school-wide events such as a Service conference. In the community beyond the school gates Service and Project activities can allow students opportunities to work directly or indirectly with a wide range of charitable causes including children, health, environment, the elderly and social equity, and may be considered to make an impact on the recipients.

Finally, the alumni noted enduring benefits to having participated in CAS which led to them developing a sense of their own responsibility in their community (Table 5.5) and fostering a sense of social responsibility, attributing their introduction to volunteering to their participation in the CAS programme.

For all these examples of the impact of CAS, the inference is that CAS activities can prompt students to step out of their classrooms and interact with the wider world and, in doing so, not only bring about benefits to themselves but also have an impact on those they work for and with. It is not possible with this data set to quantify the extent of this impact but the conclusion is that, without the CAS programme, the extent of student involvement in communities beyond their own peer group would be much less.

9.3 Concluding reflections on the impact of CAS

When conducting this research on the impact of CAS, the constituent parts of the programme's content and its various aims were all considered. Rather than itemise the benefits of CAS, however, it is perhaps more appropriate to reflect on the impact of participation in CAS activities in holistic terms.

Alumni and students found that, in addition to the benefits and outcomes available to select in the survey, there were emergent benefits to their well-being which they attributed to CAS (Tables 5.7 and 5.8 respectively). In pressurised academic settings CAS can be seen as less of a priority than academic studies (Lee *et al.*, 2013). However, Lee *et al.* (2013) also found that in China, CAS contributes to developing IBDP students' confidence through improving attributes such as communication skills and risk-taking which support the transition to university.

The present study found that students perceived Service to be the most worthwhile CAS strand (Figure 7.6) and shared the strongest agreement that the beneficiaries of their Service activities were the greatest motivator to participate in CAS. If Service motivates students and is considered by them to be the most worthwhile, it can be considered to have the greatest potential impact of all aspects of CAS. A successful CAS programme would likely hinge on students having a successful Service experience, a finding which supports Lindemann (2012) who claimed that the impact of Service was identified by alumni as the most transformational of CAS activities.

In addition, this study found that CAS is not a solo flight: a successful CAS programme rests not only on students but also on those who support students through it. This extends beyond staff directly linked with delivering CAS to those supporting them within the school, and those supporting students outside school. A holistic education programme needs to be understood in holistic terms and encompass the complexity of elements which combine to create an impact beyond the reach of the individual student. Consequently, a school that does not value CAS as an integral part of its culture will find it difficult to convince participating students of its value.

The IB suggests that schools which operate as professional learning communities are “vital for the successful implementation and development of the Diploma Programme in schools” (International Baccalaureate Organization, 2009, p40) and lists some of the attributes it would expect to see in such a community:

- A shared vision of the school values and mission, which is consistent with the IB’s mission statement and values
- Continuous and ongoing commitment to improvement
- A culture of collaboration that is embedded into working practices—trust and risk-taking are encouraged, teachers openly share their professional practice
- Emphasis on the school culture, not just on organisational structures
- A focus on, and commitment to, learning rather than teaching
- Supportive, shared and devolved leadership that includes teachers as well as school leaders—all adults in the school, as well as students, should demonstrate and model a commitment to lifelong learning and to the IB Learner Profile; the school, not just individuals within the school, needs to be a learning organisation, continually reflecting and evaluating current practice with a view to improving (*ibid.*).

It is clear throughout this study that interpretations of CAS are made at a local level, within school settings where practice and experiences vary enormously. The ease with which the attributes of a learning community map onto existing school practices may be an effective indicator of the congruence of the school culture with the values inherent in CAS. This report’s findings support other research (Martin *et al.*, 2016) which suggests that ‘CAS schools’, schools adopting complementary pedagogical approaches (Wasner, 2016), striving to connect CAS to the rest of the programme (Kulundu and Hayden, 2002) and achieving cohesion by matching opportunities with students (Hatziconstantis and Kolympari, 2016) will be better placed to deliver a CAS programme that has a positive impact on participating students and communities.

Another recent study for the IBO, also from the University of Bath, which researched the development and assessment of international-mindedness, concluded that the greatest impact may be felt when the “school is a role-model of international-mindedness” (Barratt Hacking *et al.*, 2016, p155). Echoing this assertion it can be concluded here that when the school is a role-model for those holistic educational values which complement CAS, the impact of CAS will be greatest, as epitomised by this response from one alumnus:

“In the words of my then CAS Coordinator (after she had heard a ... classmate of mine saying that she was "almost done with all her CAS hours"): you are NEVER done with CAS!” (870)

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